Acer

Predator G5900 Service Guide

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Revision History

Please refer to the table below for the updates made on this service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives additional information related to the current topic.
WARNING	Alerts you to any physical risk or system damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

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Service Guide Coverage

This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

FRU Information

Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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Chapter 1

System Tour

Features

Below is a brief summary of the computer's many feature:

NOTE: The features listed in this section is for your reference only. The exact configuration of the system depends on the model purchased.

Operating System

- Microsofte Windows 7 Home Premium x64
- FreeDOS

Processor

- Lynnfield 95W CPU / Clarkdale CPU / Inel K-SKU
- Socket Type: LGA1156
- FMB 65W + 95W + 130W (OC)

Chipset

- PCH: Intel H57
- Must meet Intel Lynnfield and Clarkdale platform design guides

PCB

- uATX / 244*244mm / 4 Layers

Memory subsystem

- DDR3 * 4
- Design requirement:
  - 2 channels, 2 DIMMs per channel. Different colors for DIMM 0 and DIMM 1.
  - Dual channel should be enabled always when plug-in 2 same memory size DDRIII. memory module.
  - Max memory of 16 GB supported (using 4Gb tech).
  - Support DDR3 1.5V 1066/1333 (1GB / 2GB / 4GB).
  - Must meet Intel Lynnfield and Clarkdale Chipset platform design guide.

Hard disk drive

- Support up to four SATA ports. 3.5", 25.4mm.
- Capacity and models are listed on FRU list.

Optical disk drive

- Support up to two SATA 5.25" standard ODD.
- Support DVD-ROM, DVD-SuperMulti, BD-combo, BD-rewrite,
- Maximum ODD depth to 185mm with bezel.
- Models are listed on FRU list.

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Graphics Card

- One PCI-E x 16 graphics card.
- Supported cards are identified on FRU list.

Onboard LAN

- REALTEK RTL8111E Giga LAN(ASF suport)

Audio

- Realtek ALC662-VC.
- 5.1 Channel High Definition and Stereo Audio.

USB ports

- Supports 14 USB ports.
- All USB ports must be boot-capable includes USB-ODD, USB-HDD, USB-FDD, and etc…
- All USB ports must be 2.0 certified.
- All USB ports must provide the over current protection.
- 6 USB ports located on rear panel and others located on front bezel and top bezel.

Expansion Slots

- 1 PCIex16 slot
- 2 PCIex1 slots
- 1 PCI slot

Serial ATA controller

- Connector Type: SATA connector
- Connector Quantity:6
- Storage Type support:
  - HDD : Support RAID 0/1/5/10
  - Blue Ray ODD
  - AHCI mode supported for internal SATA port

Rear I/O connectors

- 1 * PS/2 keyboard & PS/2 mouse connector
- 6 * USB ports
- 1 * RJ45 LAN connector
- 1 * Audio port (Line in, microphone in, line out)

Internal I/O Connectors & Headers

- 1 * 1156 socket
- 1 * SUBASSY.STEEL for LGA 1156 CPU
- 1 * 24-pin ATX PWR connector
- 1 * H2X4 Power Supply Connector
- 4 * DDR3 DIMM Socket
- 6 * SATAII
- 4 * USB H5X2 Header (support 8 ports)

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- 1 * Front Audio Pannel H5X2 header
- 1 * Front Panel IO H7X2 Header for Acer pin define
- 1 * H1X4 CPU with SAMRT FAN controller
- 1 * H1X3 System with SAMRT FAN controller
- 1 * H1X4 SPDIFOUT Header for Acer pin define
- 1 * H3X1 Clear CMOS Header (with jumper)
- 1 * onboard Buzzer
- 2 * H1X2 GPIO header

System BIOS

- Kernel: AMI Kernel with Acer skin
- Size: 2Mb

Power supply

- FR500W / FR750W
- EUP lot6

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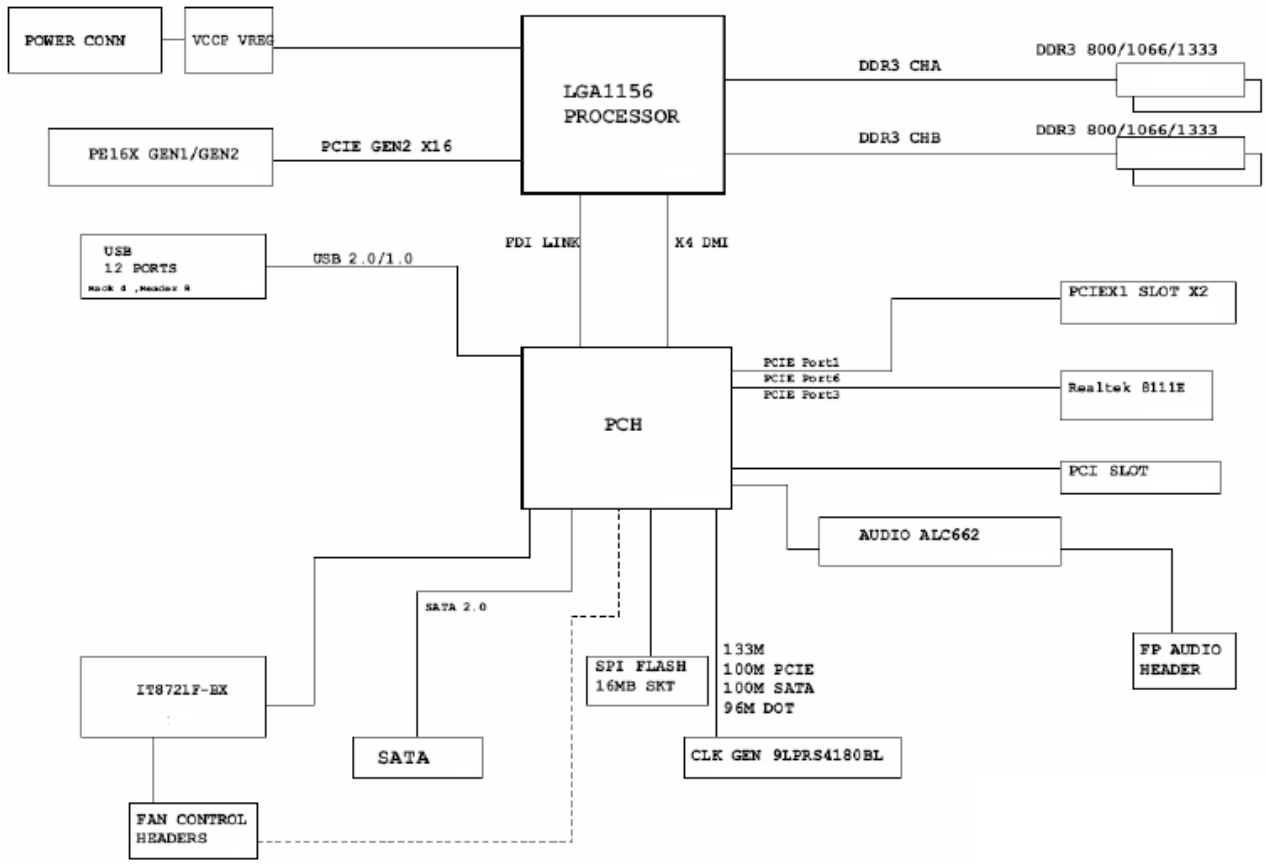
Block Diagram



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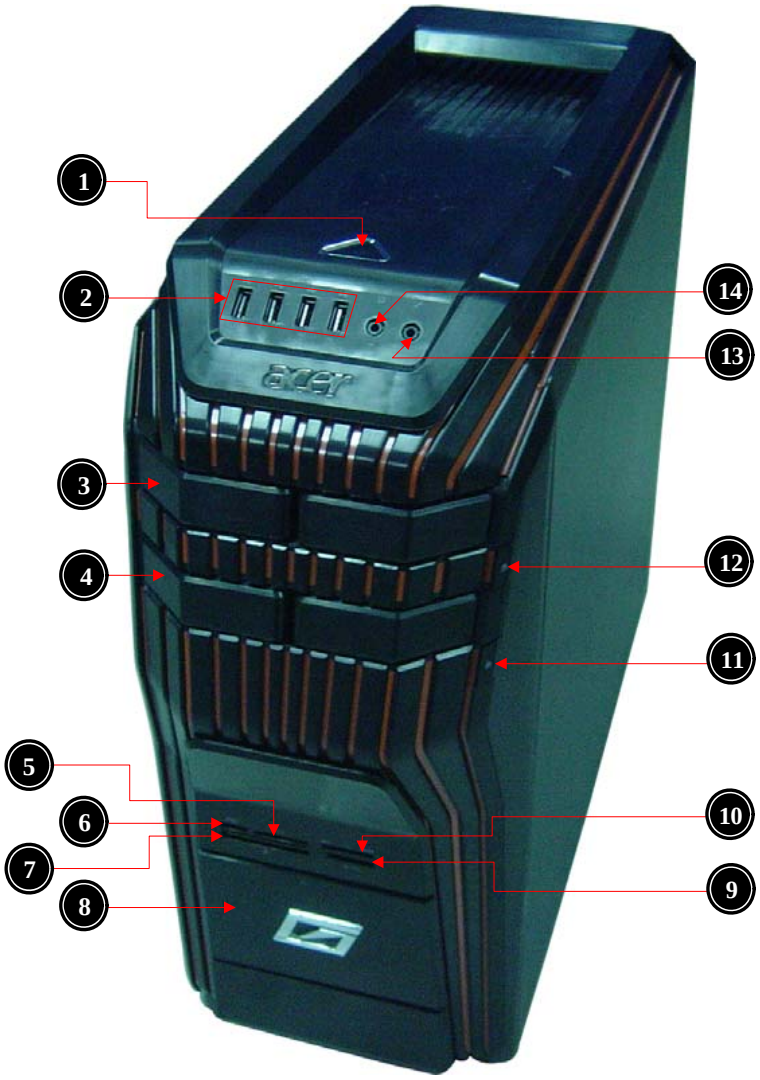
System Components

This section is a virtual tour of the system's interior and exterior components.

Front Panel



No.	Component	No.	Component
1	Power button	8	Removable HDD bay door Press bay door button to open HDD bay door and access the removable HDD.
2	USB 2.0 ports	9	MS/MS PRO slot
3	Master optical drive crab	10	SD/MMC(Secure Digital/MultiMedia Card)slot
4	Slave optical drive crab	11	Master optical drive button Press to open master optical drive crab and access the master optical drive.
5	XD(XD-Picture) slot	12	Slave optical drive button Press to open slave optical drive crab and access the slave optical drive.
6	Micro SD slot	13	Microphone-in jack
7	CF I/II (CompactFlash Type I/II) slot	14	Headphone/Speaker-out/line-out jack

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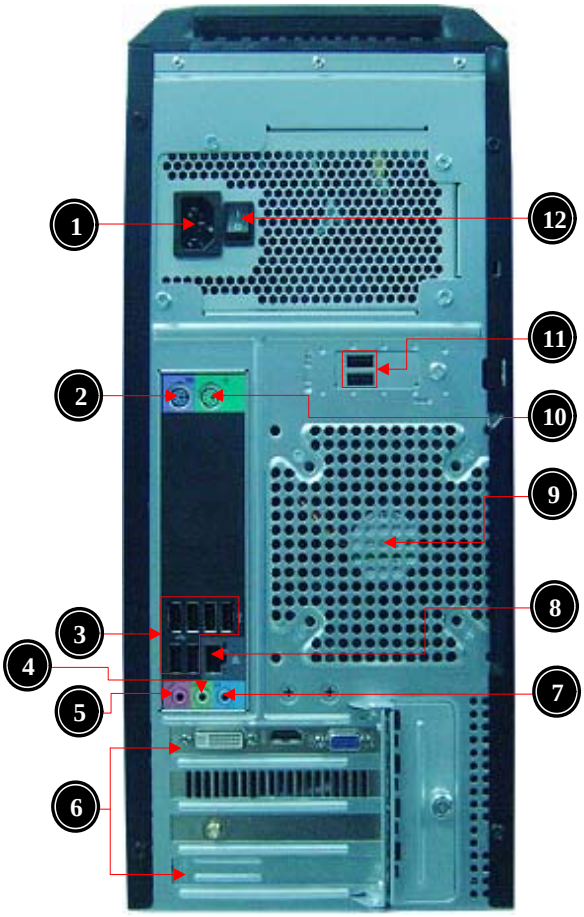
Rear Panel



No.	Component
1	Power connector
2	PS2 keyboard port
3	USB 2.0 ports
4	Line-out jack
5	Microphone/speaker-out/line-in jack
6	Expansion slot(graphics card and Mode card etc.)
7	Line-in jack
8	RJ45 LAN connector
9	System Fan
10	PS2 mouse port Line-out jack
11	USB 2.0 ports
12	Power switch

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Hardware Specifications and Configurations

Processor

Item	Specification
Processor Type	Intel Lynnfield / Clarkdale / Intel K-SKU
Socket Type	LGA1156
Socket quantity	1

BIOS

Item	Specification
BIOS code programer	AMI Kernel with Acer skin
BIOS version	P01-A0
BIOS ROM type	SPI ROM
BIOS ROM size	2Mb
Support protocol	SMBIOS 2.6/PCI2.3/PCIE1.1/PCIE2.0/USB2.0
Device Boot Support	Support BBS spec 1st priority:HDD 2nd priority:CD&DVD 3th priority:Removable device 4th priority:LAN
Support to LS-120 drive	YES
Support to BIOS boot block feature	YES

IOS Hotkey List

Hotkey	Function	Description
Del	Enter BIOS Setup Utility	Press while the system is booting to enter BIOS Setup Utility.

Main Board Major Chips

Item	Specification
North Bridge	Intel H57
Audio controller	Realtek ALC662-VC
LAN controller	Realtek 8111E
VGA controller	Intel H57
USB controller	Intel H57
SATA controller	Intel H57
Super I/O controller	ITE 8721F-BX

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Memory Combinations

Slot	Memory	Total Memory
Slot 1	1MB,2GB,4GB	1G ~4GB
Slot 2	1MB,2GB,4GB	1G ~4GB
Slot 3	1MB,2GB,4GB	1G ~4GB
Slot 4	1MB,2GB,4GB	1G ~4GB
Maximum System Memory Supported		1G~16GB

System Memory

Item	Specification
Memory slot number	4 slot
Support Memory size per socket	1GB/2GB/4GB
Support memory type	DDRIII
Support memory interface	DDRIII 1333/1066MHz
Support memory voltage	1.5V
Support memory module package	240-pin DDRIII
Support to parity check feature	Yes
Support to error correction code (ECC) feature	No
Memory module combinations	You can install memory modules in any combination as long as they match the above specifications.

Audio Interface

Item	Specification
Audio controller	Realtek ALC662VC-0
Audio controller type	HD Audio
Audio channel	codec 5.1
Audio function control	Enable/disable by BIOS Setup
Mono or stereo	Stereo
Compatibility	Support host audio controller from the Intel ICH series chipset, and also from any other HDA compatible audio controller. With EAX/Direct Sound 3D/I3DL2/ A3D compatibility, and excellent software utilities like environment sound emulation, multiple bands of software equalizer and dynamic range control, optional Dolby, Digital Live, DTS CONNECT, and Dolby Home Theater programs, provides an excellent home entertainment package and game experience for PC users.
Sampling rate	192 KHz (max.)
Microphone/Headphone jack	Supported

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SATA Interface

Item	Specification
SATA controller	Intel H57
Number of SATA channel	SATA X 6
Support mode	AHCI mode option

USB Port

Item	Specification
Universal HCI	USB 2.0
USB Class	Support legacy keyboard for legacy mode
USB Connectors Quantity	6 USB ports located on rear panel. 2 USB for the DB on rear side others located on front bezel and top bezel

Environmental Requirements

Item	Specification
Temperature	
Operating	+5°C ~ +35°C
Non-operating	-20 ~ +60°C (Storage package)
Humidity	
Operating	15% to 80% RH
Non-operating	10% to 90% RH
Vibration	
Operating (unpacked)	5 ~ 500 Hz: 2.20g RMS random, 10 minutes per axis in all 3 axes. 5 ~500 Hz: 1.09g RMS random, 1 hour per axis in all 3 axes.

Power Management

Devices	S1	S3	S4	S5
Power Button	V	V	V	V
USB Keyboard/Mouse	V	V	N/A	N/A
PME	Disabled	Disabled	Disabled	Disabled
RCT	Disabled	Disabled	Disabled	Disabled
WOR	Disabled	Disabled	Disabled	Disabled

- Devices wake up from S3 should be less than.
- Devices wake up from S5 should be less than 10 seconds.

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Power Management Function(ACPI support function)

Device Standby Mode

- Independent power management timer for hard disk drive devices(0-15 minutes,time step=1minute).
- Hard Disk drive goes into Standby mode(for ATA standard interface).
- Disable V-sync to control the VESA DPMS monitor.
- Resume method:device activated (keyboard for DOS, keyboard &mouse for Windows.
- Resume recovery time 3-5sec

Global Standby Mode

- Global power management timer(2-120minutes,time step=10minute).
- Hard disk drive goes into Standby mode(for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Resume method: Resume to original state by pushing external switch Button,modem ring in,keyboard an mouse for APM mode.
- Resume recovery time :7-10sec

Suspend Mode

- Independent power management timer(2-120minutes,time step=10minute)or pushing extern switch button.
- CPU goes into SMM
- CPU asserts STPCLK# and goes into the Stop Grant State.
- LED on panel turns amber colour.
- Hard disk drive goes into SLEEP mode (for ATA standard interface).
- Disable H-sync and V-sync signals to control the VESA DPMS monitor.
- Ultra I/O and VGA chip go into power saving mode.
- Resume method: Resume to original state by pushing external switch Button,modem ring in,keyboard an mouse for APM mode
- Return to original state by pushing external switch button,modem ring in and USB keyboard for ACPI mode.

ACPI

- ACPI specification 1.0b
- S0,S1,S2 and S5 sleep state support.
- On board device power management support.
- On board device configuration support.

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Chapter 2

System Utilities

CMOS Setup Utility

CMOS setup is a hardware configuration program built into the system ROM, called the complementary metal-oxide semiconductor (CMOS) Setup Utility. Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions.

- When changing the system configuration settings
- When redefining the communication ports to prevent any conflicts
- When modifying the power management configuration
- When changing the password or making other changes to the security setup
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the CMOS setup

NOTE: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

CMOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run the *CMOS* Setup Utility, make sure that you have saved all open files. The system reboots immediately after you close the Setup.

NOTE: *CMOS* Setup Utility will be simply referred to as “BIOS”, "Setup", or "Setup utility" in this guide.

The screenshots used in this guide display default system values. These values may not be the same those found in your system.

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Entering CMOS setup

1. Turn on the server and the monitor.

   If the server is already turned on, close all open applications, then restart the server.

2. During POST, press **Delete**.

   If you fail to press **Delete** before POST is completed, you will need to restart the server.

   The Setup Main menu will be displayed showing the Setup's menu bar. Use the left and right arrow keys to move between selections on the menu bar.

Navigating Through the Setup Utility

Use the following keys to move around the Setup utility.

- **Left** and **Right** arrow keys – Move between selections on the menu bar.
- **Up** and **Down** arrow keys – Move the cursor to the field you want.
- **PgUp** and **PgDn keys** – Move the cursor to the previous and next page of a multiple page menu.
- **Home** – Move the cursor to the first page of a multiple page menu.
- **End** – Move the cursor to the last page of a multiple page menu.
- **+** and **-** keys – Select a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display each possible entry, or the **Enter** key to choose from a pop-up menu.

NOTE: Grayed-out fields are not user-configurable.

- **Enter** key – Display a submenu screen.

NOTE: Availability of submenu screen is indicated by a (>).

- **Esc** – If you press this key:
  - On one of the primary menu screens, the Exit menu displays.
  - On a submenu screen, the previous screen displays.
  - When you are making selections from a pop-up menu, closes the pop-up without making a selection.
- **F1** – Display the General Help panel.
- **F6** – Press to load optimized default system values.
- **F7** – Press to load fail-safe default system values.
- **F10** – Save changes made the Setup and close the utility.

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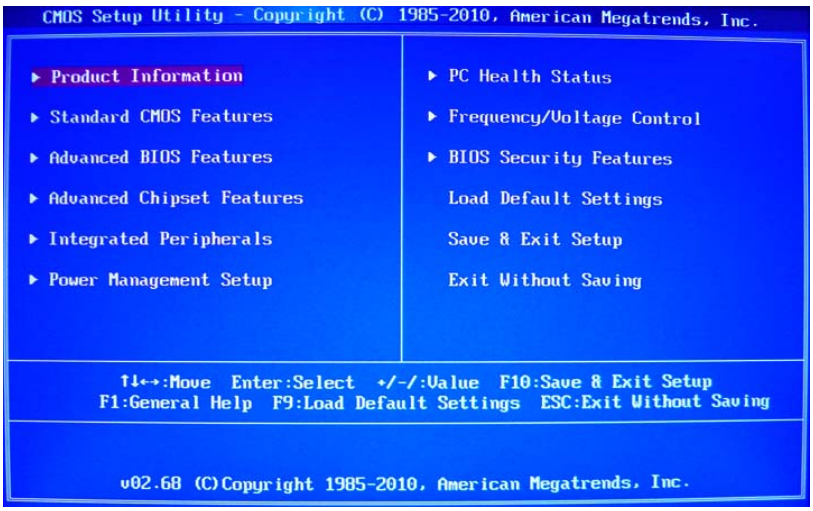
Setup Utility Menus


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Product Information
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PC Health Status
Frequency/Voltage Control
BIOS Security Features
Load Default Settings
Save & Exit Setup
Exit Without Saving
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving
v02.68 (C)Copyright 1985-2010, American Megatrends, Inc.

The Setup Main menu includes the following main setup categories.

Parameter	Description
Product Information	This page shows the relevant information of the main board
Standard CMOS Features	This setup page includes all the items in standard compatible BIOS
Advanced Chipset Features	This setup page includes all the items of Award special enhanced features
Advanced Chipset Features	This setup page includes all advanced chipset features
Integrated Peripherals	This setup page includes all onboard peripherals
Power Management Setup	This setup page includes all the items of Green function features
PC Health Status	This setup page is the System auto detect Temperature, voltage, and fan speed
Frequency/Voltage Control	This setup page is the System Frequency setup
BIOS Security Features	Change, set or disable password. It allows you to limit access to the System
Load Default Setting	Load Default Setting indicates the value of the system parameters which the system would be in best performance configuration
Save & Exit Setup	Save CMOS value settings to CMOS and exit setup
Exit Without Saving	Abandon all CMOS value changes and exit setup

In the descriptive table following each of the menu screenshots, settings in **boldface** are the default and suggested settings.

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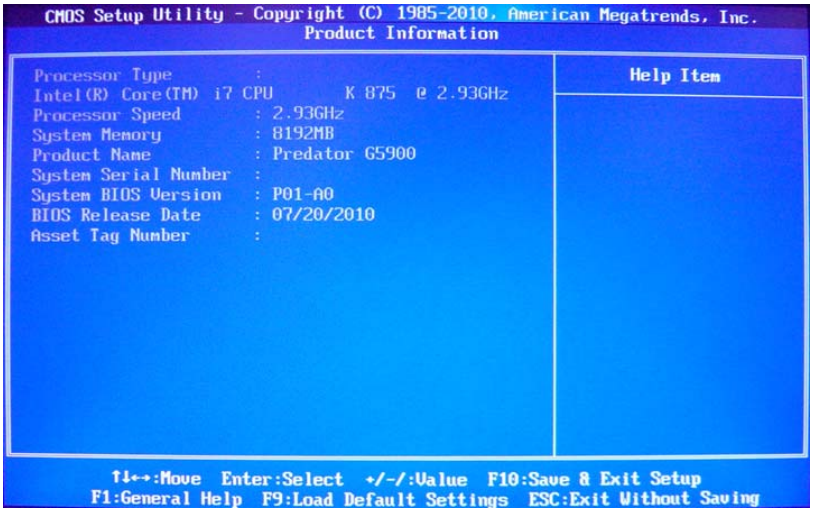
Product Information

The Product Information menu displays basic information about the system. These entries are for your reference only and are not user-configurable.


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Product Information
Processor Type :
Intel(R) Core(TM) i7 CPU K 875 @ 2.93GHz
Processor Speed : 2.93GHz
System Memory : 8192MB
Product Name : Predator G5900
System Serial Number :
System BIOS Version : P01-A0
BIOS Release Date : 07/20/2010
Asset Tag Number :
Help Item
↑↓←→:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description
Processor Type	Type of CPU installed on the system.
Processor Speed	Speed of the CPU installed on the system.
System Memory	Total size of system memory installed on the system.
Product Name	Product name of the system.
System Serial Number	Serial number of the system.
System BIOS Version	Version number of the BIOS setup utility.
BIOS Release Date	Date when the BIOS setup utility was released
Asset Tag Number	Asset tag number of this system.

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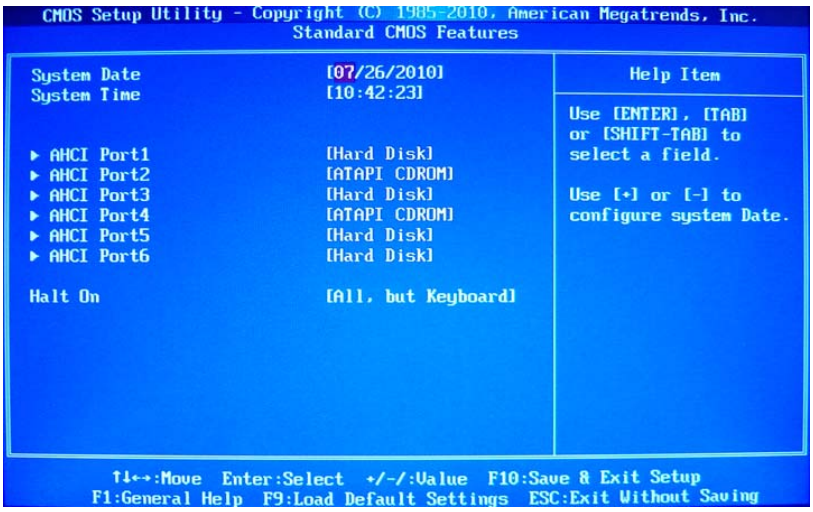
Standard CMOS Features


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Standard CMOS Features
System Date [07/26/2010]
System Time [10:42:23]
AHCI Port1 [Hard Disk]
AHCI Port2 [ATAPI CDROM]
AHCI Port3 [Hard Disk]
AHCI Port4 [ATAPI CDROM]
AHCI Port5 [Hard Disk]
AHCI Port6 [Hard Disk]
Halt On [All, but Keyboard]
Help Item
Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.
Use [+] or [-] to configure system Date.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description	Option
System Date	Set the date following the weekday-month-day-year format.	
System Time	Set the system time following the hour-minute-second format.	
AHCI Port 1~6	This motherboard supports six SATA channels, each channel allows one SATA device to be installed. Use these items to configure each device on the SATA channel.	
Halt On	Determines whether the system will stop for an error during the POST.	**All, But Keyboard** No Errors All Errors

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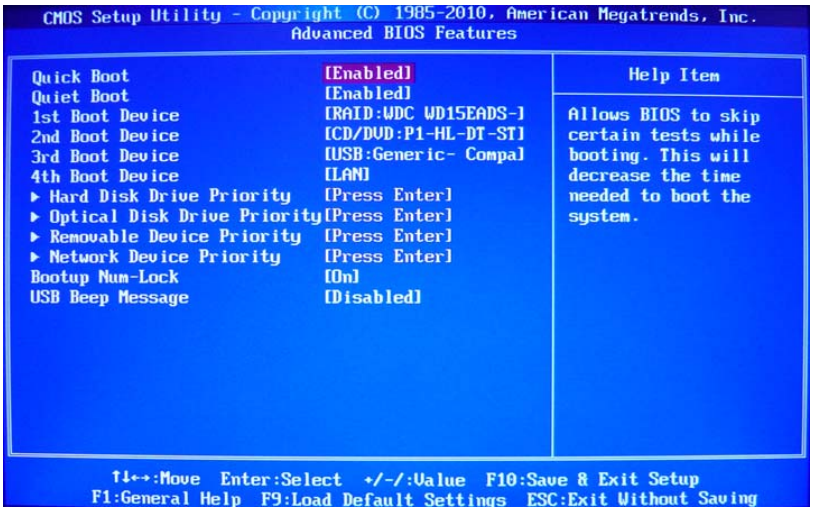
Advanced BIOS Feature


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Advanced BIOS Features
Quick Boot [Enabled]
Quiet Boot [Enabled]
1st Boot Device [RAID:WDC WD15EADS-]
2nd Boot Device [CD/DVD:P1-HL-DT-ST]
3rd Boot Device [USB:Generic- Compal]
4th Boot Device [LAN]
▶ Hard Disk Drive Priority [Press Enter]
▶ Optical Disk Drive Priority [Press Enter]
▶ Removable Device Priority [Press Enter]
▶ Network Device Priority [Press Enter]
Bootup Num-Lock [On]
USB Beep Message [Disabled]
Help Item
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Quick Boot	Allows you to decrease the time it takes to boot the computer by shortening or skipping certain standard booting process.	**Enabled** Disabled
Quiet Boot	When enabled, the BIOS splash screen displays during startup. When disabled, the diagnostic screen displays during startup.	**Enabled** Disabled
1st/2nd/3rd/4th Boot Device	Specifies the boot order from the available devices.	Hard Disk CD^DVD Removable Device LAN
Hard Disk Drive Priority	Press **Enter** to access the Hard Disk Drive Priority submenu and specify the boot device priority sequence from available hard drives.	
Optical Disk Drive Priority	Press **Enter** to access the Optical Disk Drive Priority submenu and specify the boot device priority sequence from available optical drives.	
Removable Device Priority	Press **Enter** to access the Removable Device Priority submenu and specify the boot device priority sequence from available removable drives.	
Network Drives Priority	Press **Enter** to access the Network Drive Priority submenu and specify the boot device priority sequence from available network drives.	
Bootup Num-Lock	This item defines if the keyboard Num Lock key is active when your system is started.	**On** Off
USB Beep Message	Enables or disables BIOS to display error beeps or messages during USB device enumeration.	**Disabled** Enabled

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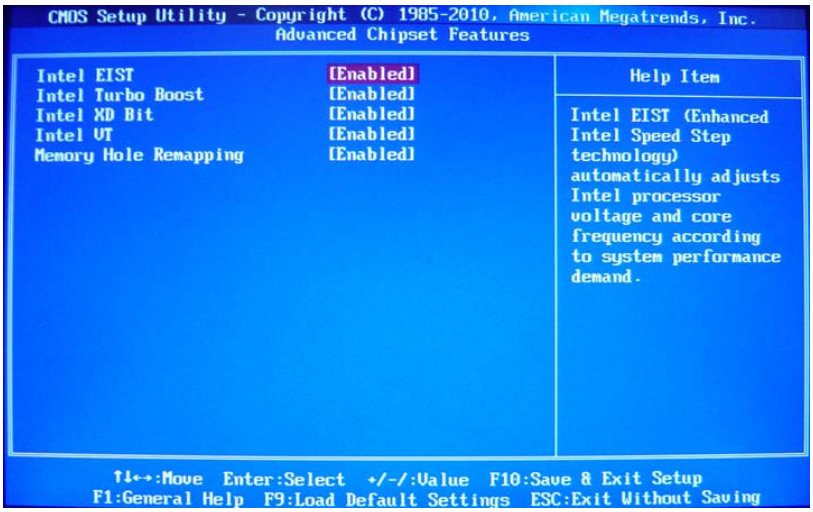
Advanced Chipset Features


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Advanced Chipset Features
Intel EIST [Enabled]
Intel Turbo Boost [Enabled]
Intel XD Bit [Enabled]
Intel VT [Enabled]
Memory Hole Remapping [Enabled]
Help Item
Intel EIST (Enhanced Intel Speed Step technology) automatically adjusts Intel processor voltage and core frequency according to system performance demand.
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Intel EIST	This item allows users to enable or disable the EIST (Enhanced Intel SpeedStep technology).	**Enabled** Disabled
Intel Turbo Boost	This item allows users to enable or disable the Intel Turbo Boost.	**Enabled** Disabled
Intel XD Bit	This item allows users to enable or disable the Intel XD Bit.	**Enabled** Disabled
Intel VT	Hardware Virtualization Technology enables processor feature for running multiplesimultaneous Virtual Machines allowing specialized software applications to run infull isolation of each other.	**Enabled** Disabled
Memory Hole Remapping	This item allows users to enable or disable memory hole remapping.	**Enabled** Disabled

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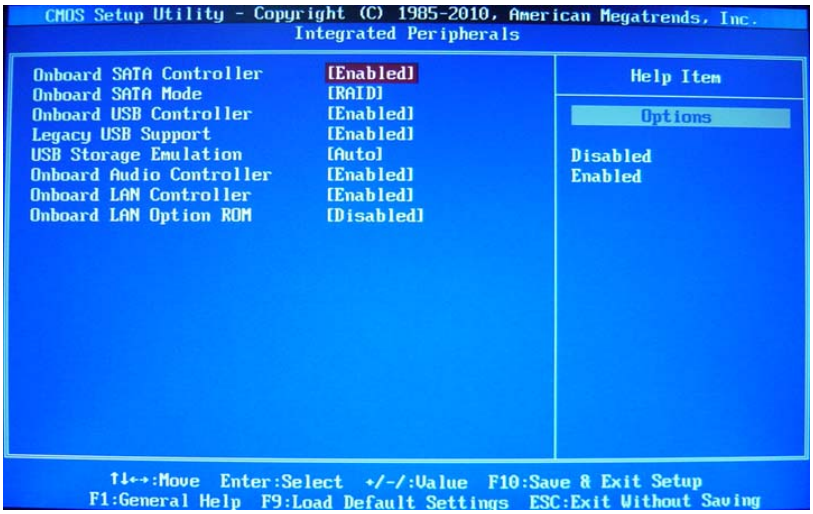
Integrated Peripherals


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Integrated Peripherals
Onboard SATA Controller [Enabled]
Onboard SATA Mode [RAID]
Onboard USB Controller [Enabled]
Legacy USB Support [Enabled]
USB Storage Emulation [Auto]
Onboard Audio Controller [Enabled]
Onboard LAN Controller [Enabled]
Onboard LAN Option ROM [Disabled]
Help Item
Options
Disabled
Enabled
↑↓←→:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description	Option
Onboard SATA Controller	Enables or disables the onboard SATA controller.	Enabled Disabled
Onboard SATA Mode	Select an operating mode for the onboard SATA.	RAID Native IDE
Onboard USB Controller	Enables or disables the onboard USB controller.	**Enabled** Disabled
Legacy USB Support	Enables or disables support for legacy USB devices.	**Enabled** Disabled
USB Storage Emulation	If Auto, USB device equal or less than 2GB will be emulated as Floppy and remaining as harddrive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex.ZIP drive).	**Auto** Floppy Hard Disk
Onboard Audio Controller	Enables or disables the onboard audio controller.	**Enabled** Disabled
Onboard LAN Controller	Enables or disables the onboard LAN controller.	**Enabled** Disabled
Onboard LAN Option ROM	Enables or disables the load of embedded option ROM for onboard network controller.	**Enabled** Disabled

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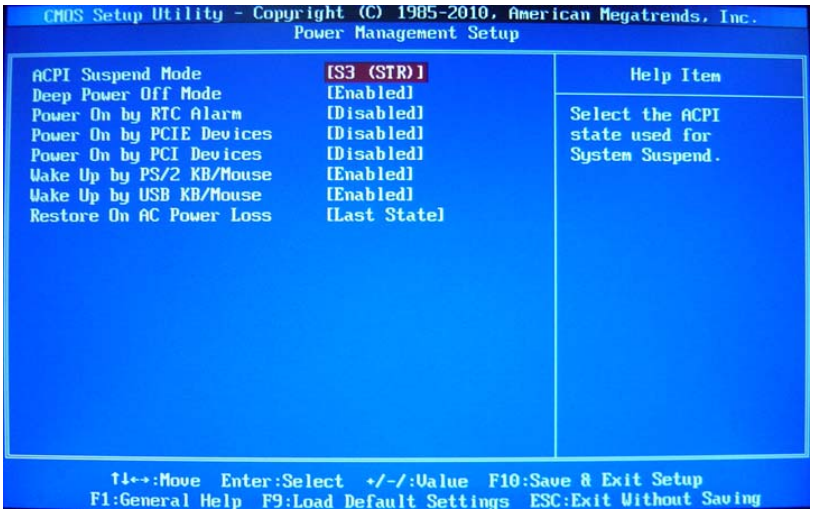
Power Management Setup


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Power Management Setup
ACPI Suspend Mode [S3 (STR)]
Deep Power Off Mode [Enabled]
Power On by RTC Alarm [Disabled]
Power On by PCIE Devices [Disabled]
Power On by PCI Devices [Disabled]
Wake Up by PS/2 KB/Mouse [Enabled]
Wake Up by USB KB/Mouse [Enabled]
Restore On AC Power Loss [Last State]
Help Item
Select the ACPI state used for System Suspend.
↑↓←→:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description	Option
ACPI Suspend Mode	Select an ACPI state.	**S3 (STR)** S1 (POS)
Deep Power Off Mode	Select the Deep power off Mode	**Enabled** Disabled
Power On by RTC Alarm	Enables or Disables to wake up the system by RTC Alarm Function	**Enabled** Disabled
Power On by PCIE Devices	Enables or disables to wake up the system from a power saving mode through an event on PCI Express device.	**Enabled** Disabled
Power On by PCI Devices	Enables or disables to wake up the system from a power saving mode through an event on PCI device.	**Enabled** Disabled
Wake Up by PS/2 KB/ Mouse	Enables or disables to wake up the system from a power saving mode using a PS2 keyboard or mouse.	**Enabled** Disabled
Wake Up by USB KB/ Mouse	If enabled, press any key or click the mouse will wake system from S1/ S3 state.	**Enabled** Disabled
Restore On AC Power Loss	Enables or disables the system to reboot after a power failure or interrupt occurs.	**Power Off** Power On Last State

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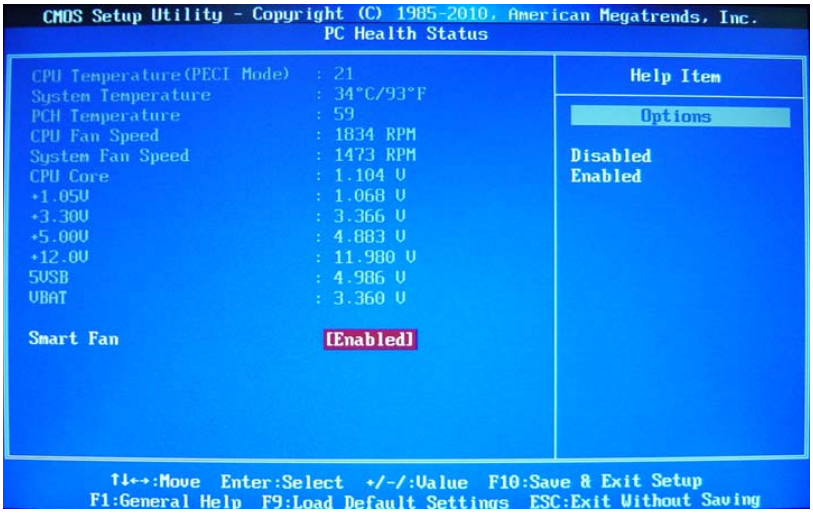
PC Health Status


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
PC Health Status
CPU Temperature(PECI Mode) : 21
System Temperature : 34°C/93°F
PCH Temperature : 59
CPU Fan Speed : 1834 RPM
System Fan Speed : 1473 RPM
CPU Core : 1.104 V
+1.05V : 1.068 V
+3.30V : 3.366 V
+5.00V : 4.883 V
+12.0V : 11.980 V
5VSB : 4.986 V
VBAT : 3.360 V
Smart Fan [Enabled]
Help Item
Options
Disabled
Enabled
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description	Option
Smart Fan	Enables or disables the smart system fan control function.	**Enabled** Disabled

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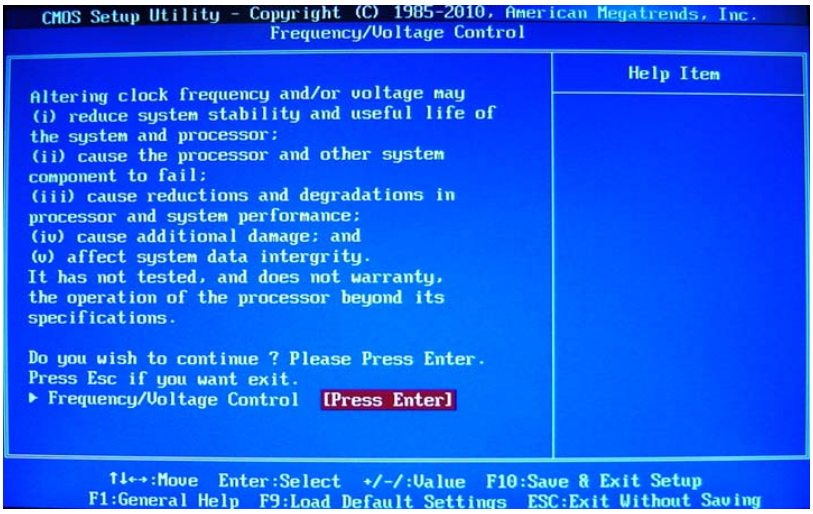
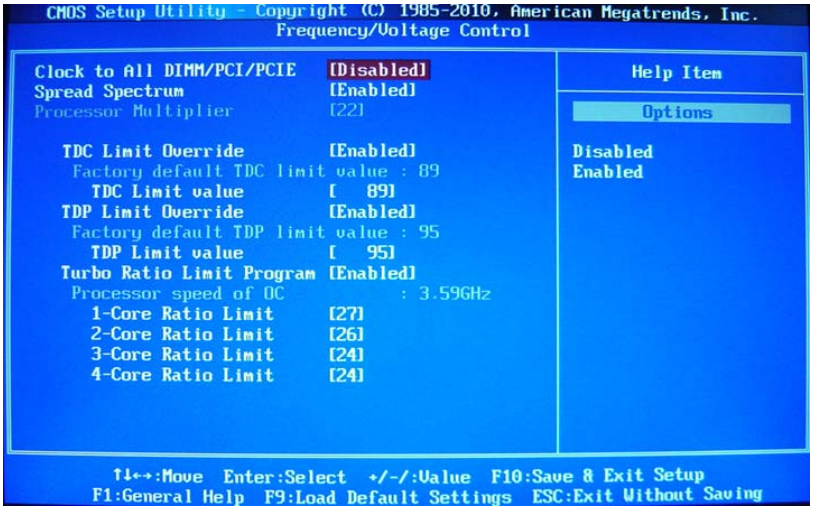
Frequency/Voltage Control


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Frequency/Voltage Control
Help Item
Altering clock frequency and/or voltage may
(i) reduce system stability and useful life of
the system and processor;
(ii) cause the processor and other system
component to fail;
(iii) cause reductions and degradations in
processor and system performance;
(iv) cause additional damage; and
(v) affect system data intergrity.
It has not tested, and does not warranty,
the operation of the processor beyond its
specifications.
Do you wish to continue ? Please Press Enter.
Press Esc if you want exit.
▶ Frequency/Voltage Control [Press Enter]
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Press Enter:


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
Frequency/Voltage Control
Clock to All DIMM/PCI/PCIE [Disabled]
Spread Spectrum [Enabled]
Processor Multiplier [22]
TDC Limit Override [Enabled]
Factory default TDC limit value : 89
TDC Limit value [89]
TDP Limit Override [Enabled]
Factory default TDP limit value : 95
TDP Limit value [95]
Turbo Ratio Limit Program [Enabled]
Processor speed of OC : 3.59GHz
1-Core Ratio Limit [27]
2-Core Ratio Limit [26]
3-Core Ratio Limit [24]
4-Core Ratio Limit [24]
Help Item
Options
Disabled
Enabled
↑↓↔:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description	Option
Clock to All DIMM/PCI/PCIE	When this item is disabled, BIOS will enable the clock signal of free DIMM/PCI slots.	**Enabled** Disabled
Spread Spectrum	Enables or disables the reduction of the mainboard's EMI. Note: Remember to disable the Spread Spectrum feature if you are overclocking. A slight jitter can introduce a temporary boost in clock speed causing the overclocked processor to lock up.	**Enabled** Disabled
TDC Limit Overide	Program the thresholds for the current while in Turbo mode	**Enabled** Disabled
TDC Limit Value	Program the thresholds for the current while in Turbo mode	
TDP Limit Overide	Program the thresholds for the power while in Turbo mode.	**Enabled** Disabled
TDP Limit Value	Program the thresholds for the power while in Turbo mode.	
Turbo Ratio Limit Program	Program the thresholds for the power while in Turbo mode.	**Enabled** Disabled
1/2/3/4_Core Ratio Limit	Select value will program into Turbo Ratio Limit register.	

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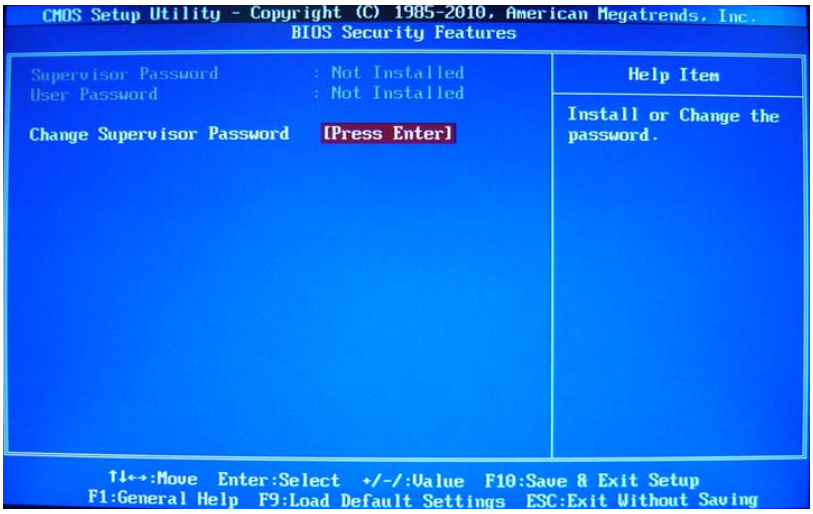
BIOS Security Features


CMOS Setup Utility - Copyright (C) 1985-2010, American Megatrends, Inc.
BIOS Security Features
Supervisor Password : Not Installed
User Password : Not Installed
Change Supervisor Password [Press Enter]
Help Item
Install or Change the password.
↑↓←→:Move Enter:Select +/-/:Value F10:Save & Exit Setup
F1:General Help F9:Load Default Settings ESC:Exit Without Saving

Parameter	Description
Supervisor Password	Indicates the status of the supervisor password.
User Password	Indicates the status of the user password.
Change Supervisor Password	Supervisor password prevents unauthorized access to the BIOS Setup Utility. Press **Enter** to change the Supervisor password.

Setting a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.

   A password box will appear.
2. Type a password then press **Enter**.

   The password may consist up to six alphanumeric characters (A-Z, a-z, 0-9)
3. Retype the password to verify the first entry then press **Enter** again.
4. Press **F10**.
5. Select **Yes** to save the new password and close the Setup Utility.

Changing the supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Type the original password then press **Enter**.
3. Type a new password then press **Enter**.
4. Retype the password to verify the first entry then press **Enter** again.
5. Press **F10**.
6. Select **Yes** to save the new password and close the Setup Utility.

Removing a supervisor password

1. Use the up/down arrow keys to select Change Supervisor Password menu then press **Enter**.
2. Enter the current password then press **Enter**.
3. Press **Enter** twice without entering anything in the password fields.

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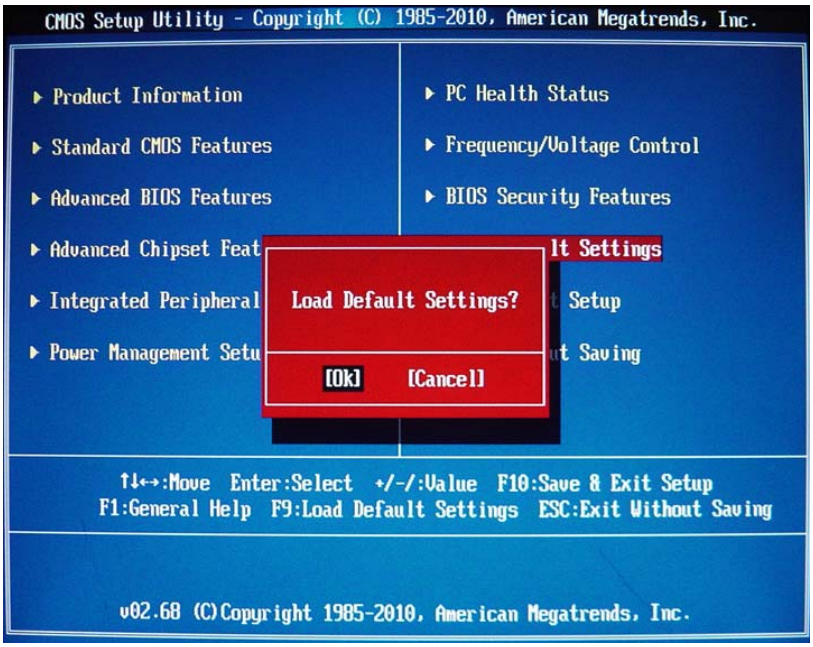
Load Default Settings

The Load Default Settings menu allows you to load the default settings for all BIOS setup parameters. Setup defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.



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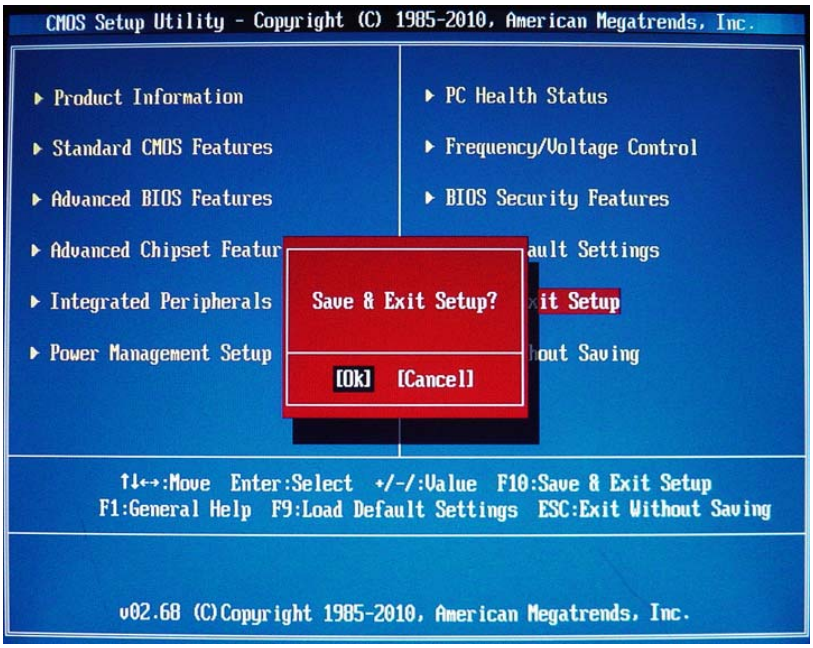
Save & Exit Setup

The Save & Exit Setup menu allows you to save changes made and close the Setup Utility.



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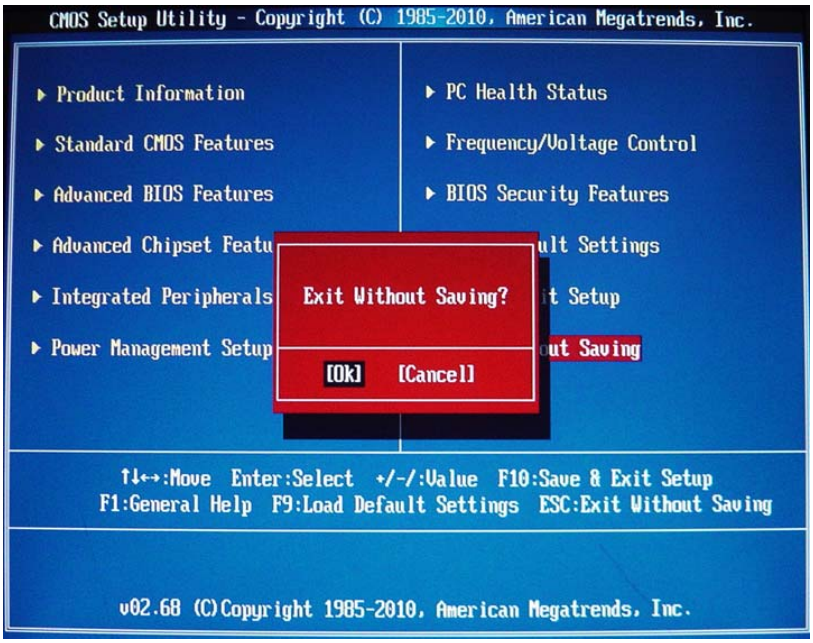
Exit Without Saving

The Exit Without Saving menu allows you to discard changes made and close the Setup Utility.



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Chapter 3

System Disassembly

This chapter contains step-by-step procedures on how to disassemble the desktop computer for maintenance and troubleshooting.

Disassembly Requirements

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Flat-blade screwdriver
- Philips screwdriver
- Hex screwdriver
- Plastic flat-blade screwdriver
- Plastic tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

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Pre-disassembly Procedure

Before proceeding with the disassembly procedure, perform the steps listed below:

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.

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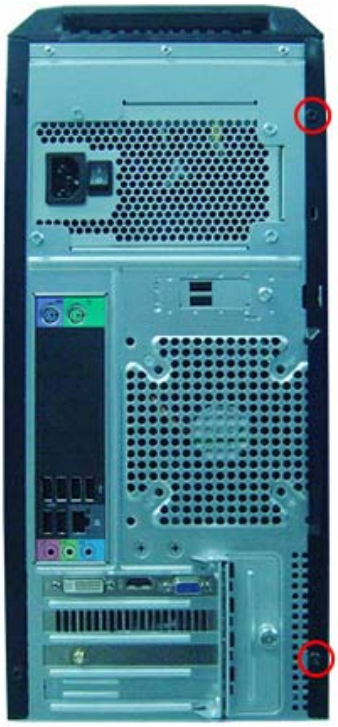
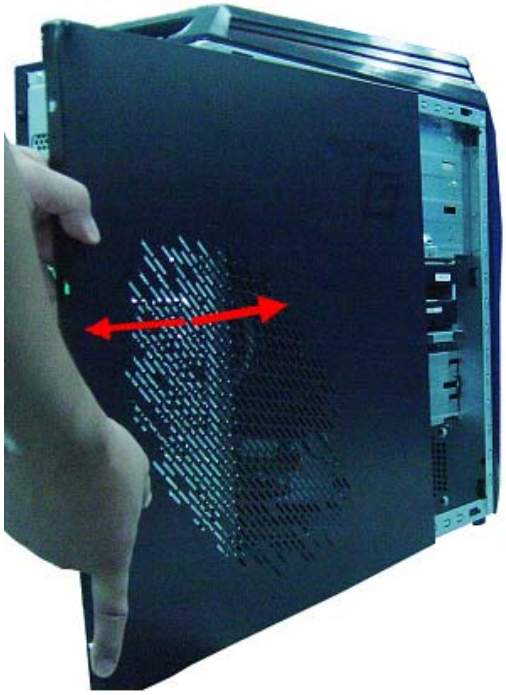
Removing the Side Panel

1. Remove the two screws located on the rear edge of the side panel.



2. Slide the side panel toward the back of the chassis until the tabs on the cover disengage with the slots on the chassis.
3. Lift the side panel away from the server and put it aside for reinstallation later.



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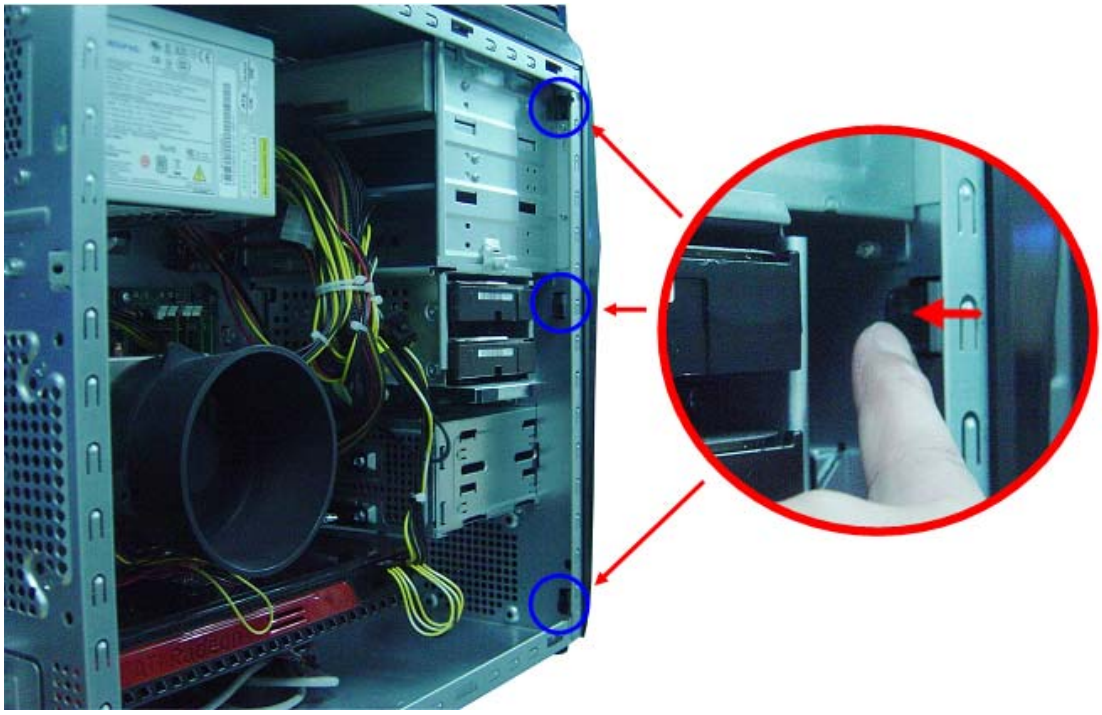
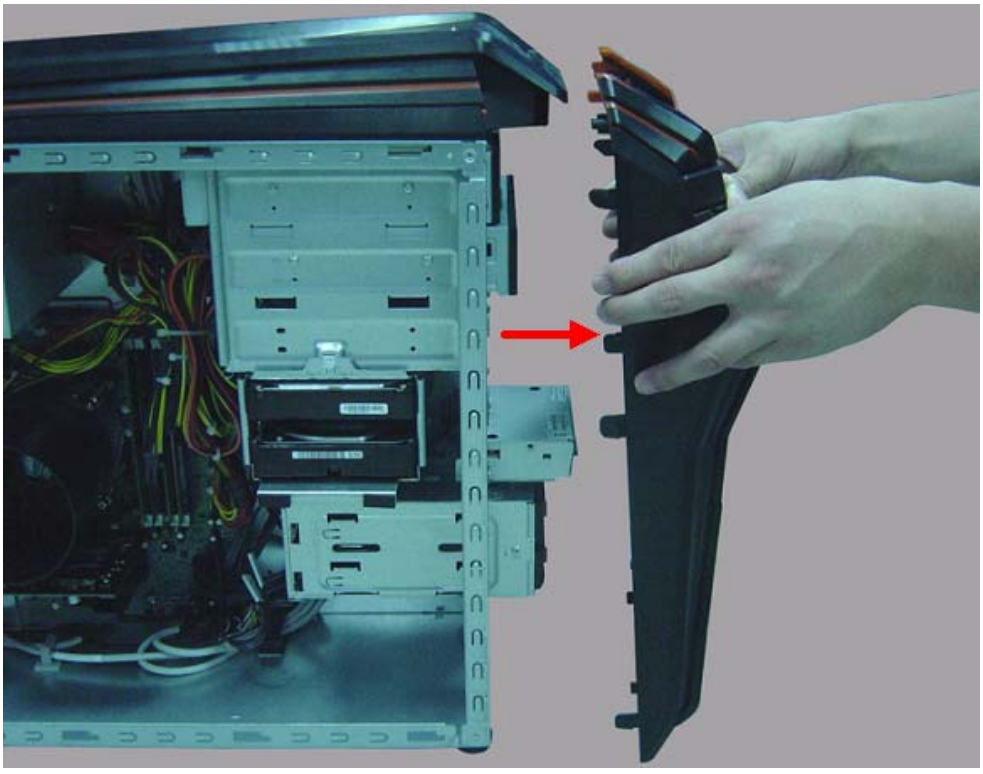
Removing the Front Bezel

1. Release the front bezel retention tabs from the chassis interior.



2. Pull the bezel away from the chassis.



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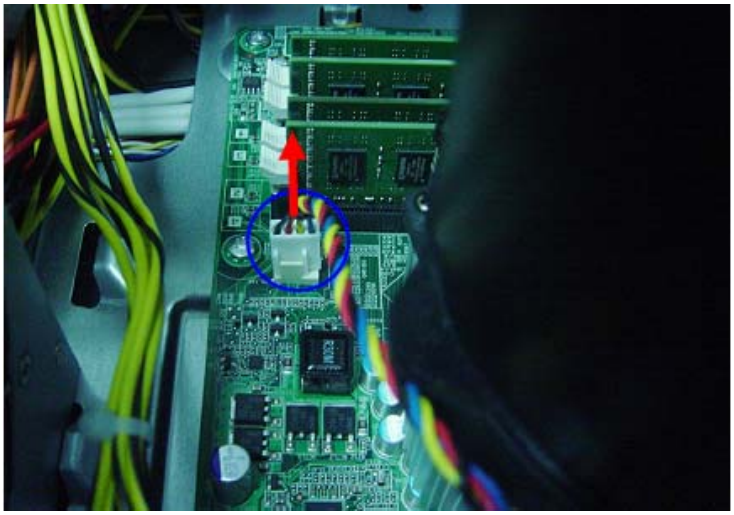
Removing the Heat Sink Fan Assembly

WARNING: The heat sink becomes very hot when the system is on. NEVER touch the heat sink with any metal or with your hands.

1. Disconnect the fan cable from the mainboard.



2. Use a long-nosed screwdriver to loosen the four screws on the heat sink, in the order as shown below.

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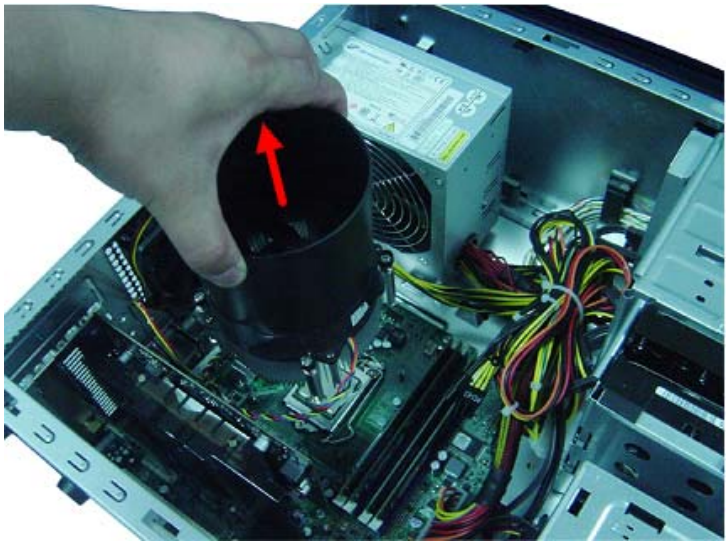
3. Lift the heat sink fan assembly away from the mainboard.



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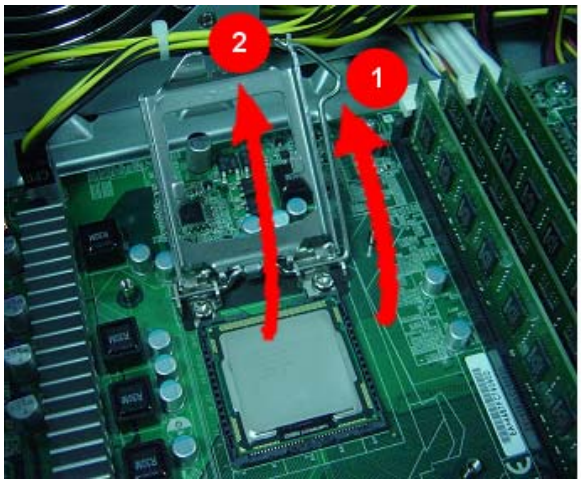
Removing the Processor

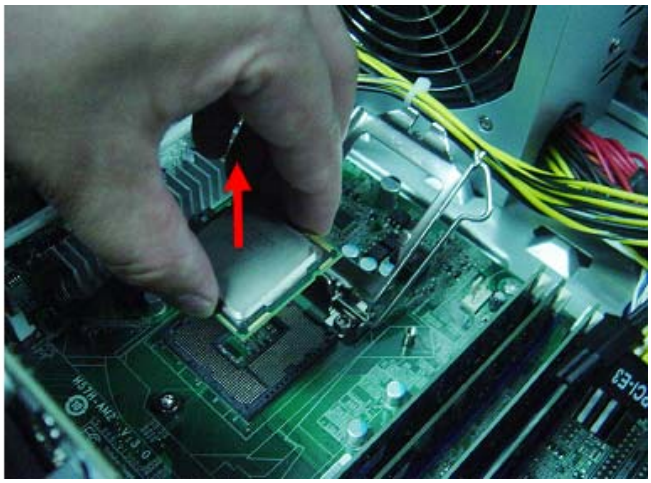
IMPORTANT: Before removing a processor from the mainboard, make sure to create a backup file of all important data.

WARNING: The processor becomes very hot when the system is on. Allow it to cool off first before handling.

1. Release the load lever.

2. Lift the load lever and load plate to the fully open, upright position (1) and (2).
3. Pull out the processor from the socket.





IMPORTANT: If you are going to install a new processor, note the arrow on the corner to make sure the processor is properly oriented over the socket.

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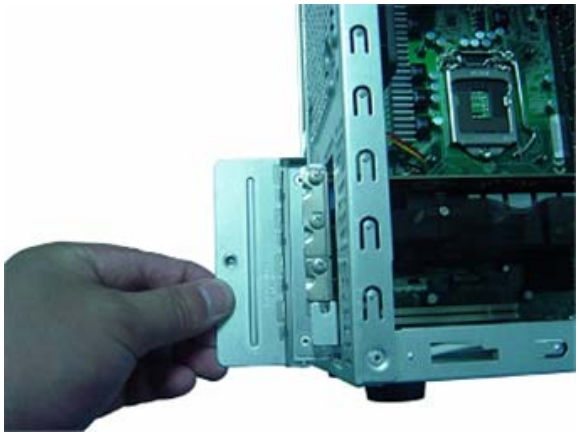
Removing the VGA Card

1. Remove the screw from the chassis.

2. Open the PCI-Door as below.



3. Remove the two screws that secures the card to the chassis.

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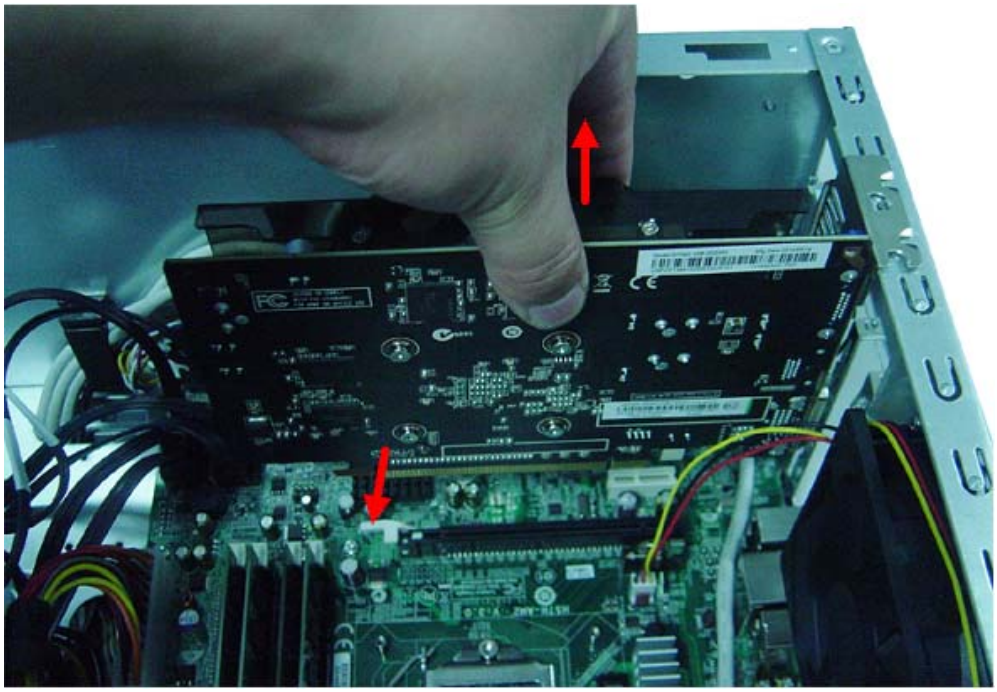
4. Gently pull the card to remove it from the mainboard.



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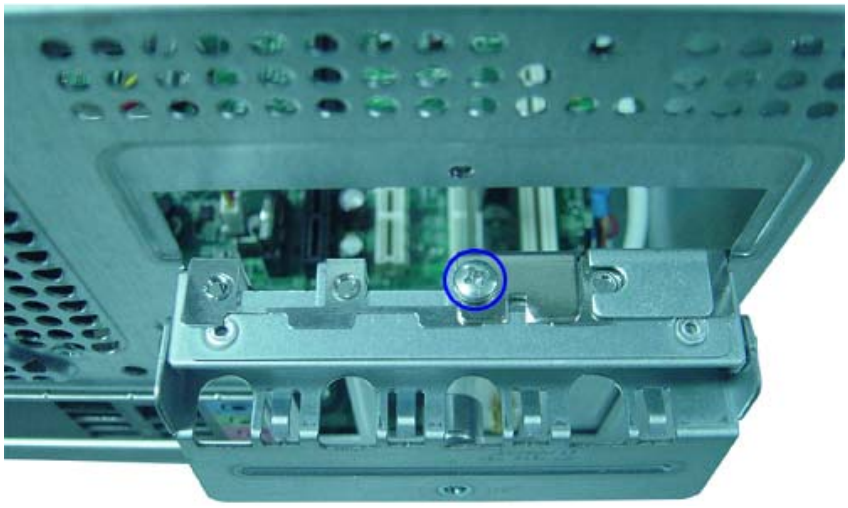
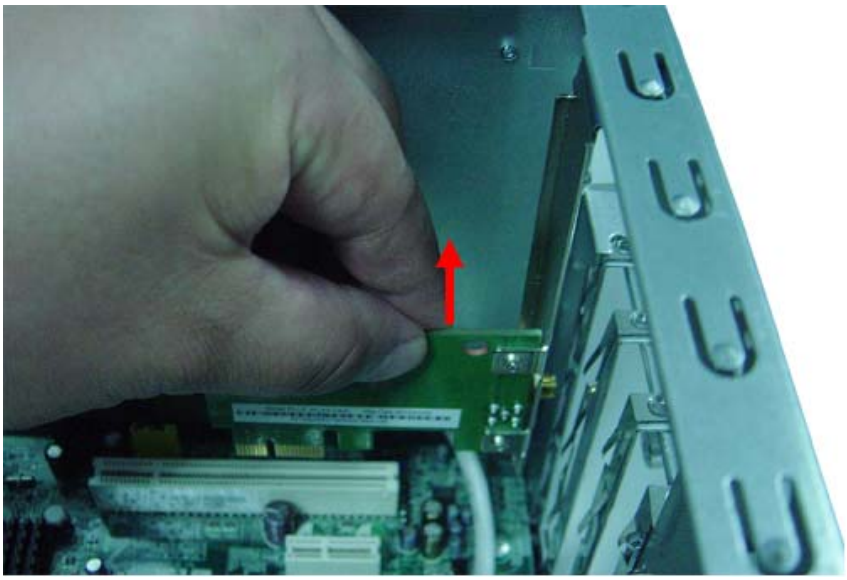
Removing the Wireless LAN Card

1. Remove the screw that secures the card to the chassis.



1. Gently pull the card to remove it from the mainboard.



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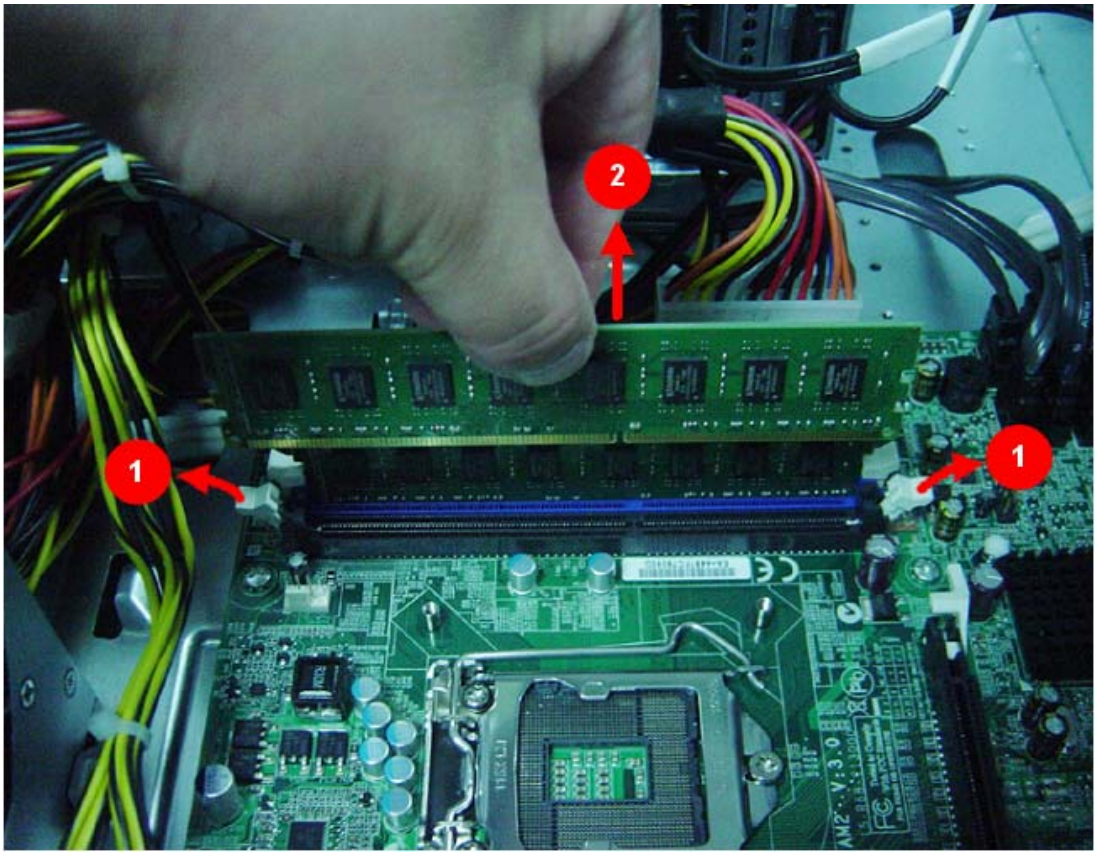
Removing the Memory Modules

IMPORTANT: Before removing any DIMM from the memory board, make sure to create a backup file of all important data.

1. Press the holding clips on both sides of the DIMM slot outward to release the DIMM (1).
2. Gently pull the DIMM upward to pull it away from the chassis (2).



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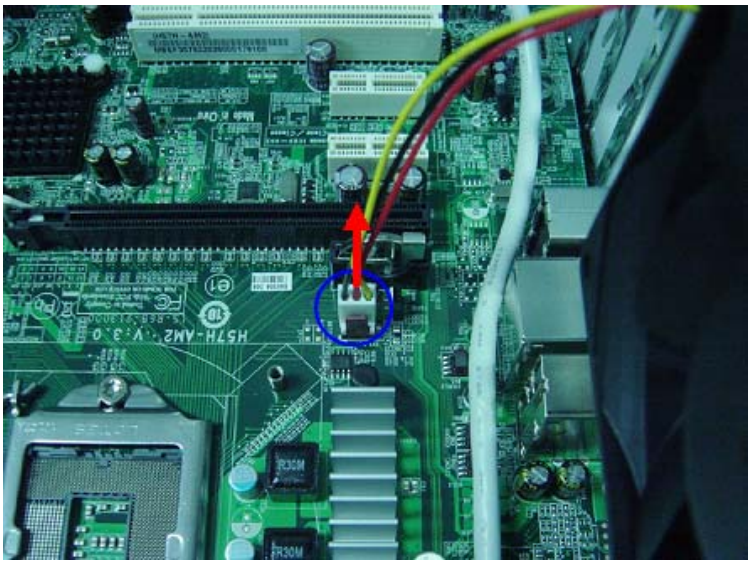
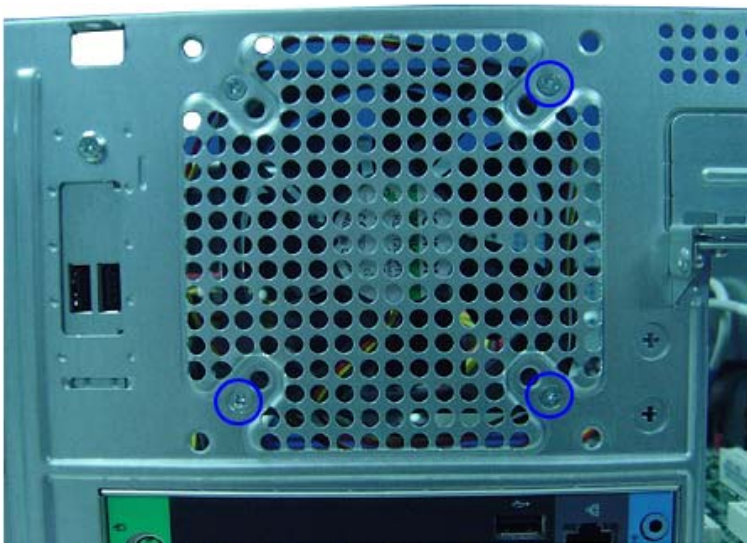
Removing the System Fan

1. Disconnector the power cable from the motherboard.



2. Release the four screws fastening the system fan.



3. Remove the system Fan from the chassis.

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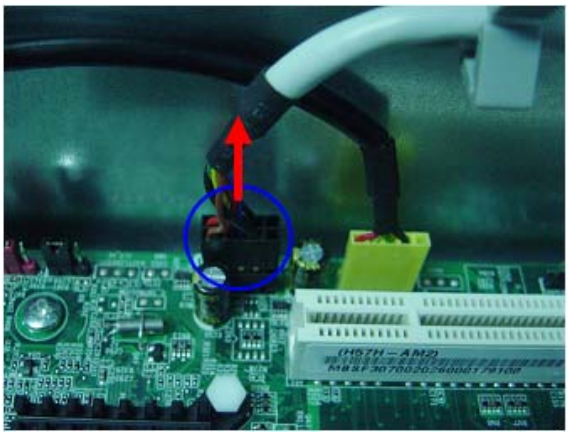
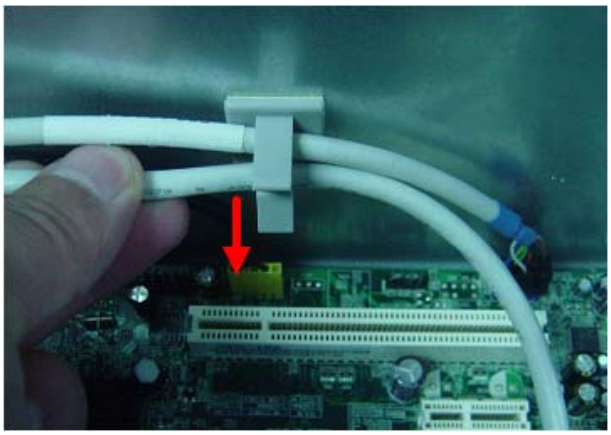
Removing the Daughter Board

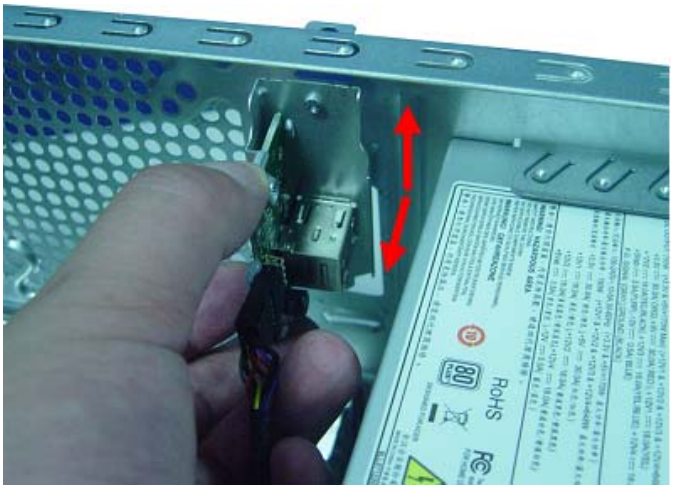
1. Disconnect the daughter board cable from the motherboard, and then take out the cable from the cable retention clip.





2. Remove the screw that secures the chassis to the daughter board.

3. Take out the daughter board.



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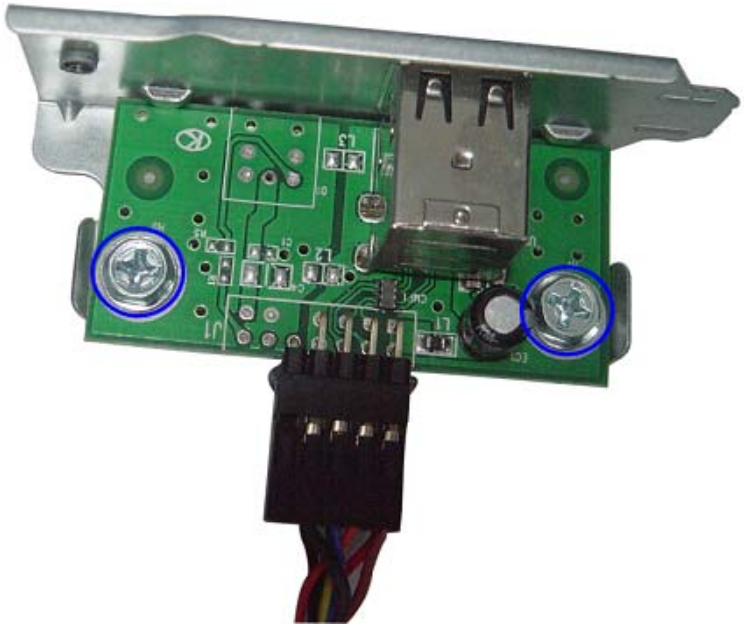
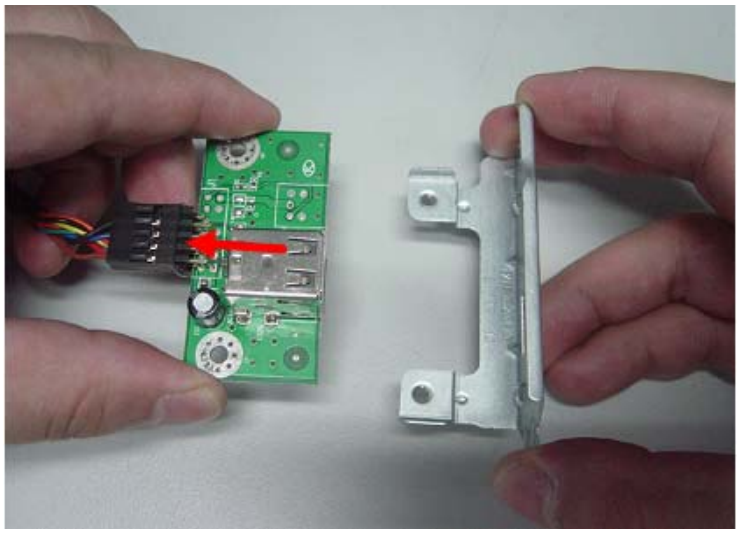
4. Remove the two screws that secure the USB board to the bracket.



5. Pull the USB board out of the bracket.



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Removing Other Side Panel

1. Remove the two screws located on the rear edge of the side panel.

2. Slide the side panel toward the back of the chassis until the tabs on the cover disengage with the slots on the chassis.
3. Lift the side panel away from the server and put it aside for reinstallation later.

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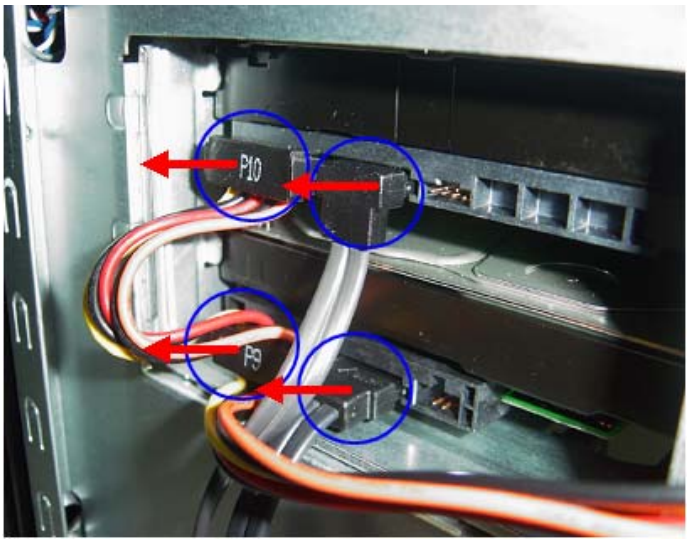
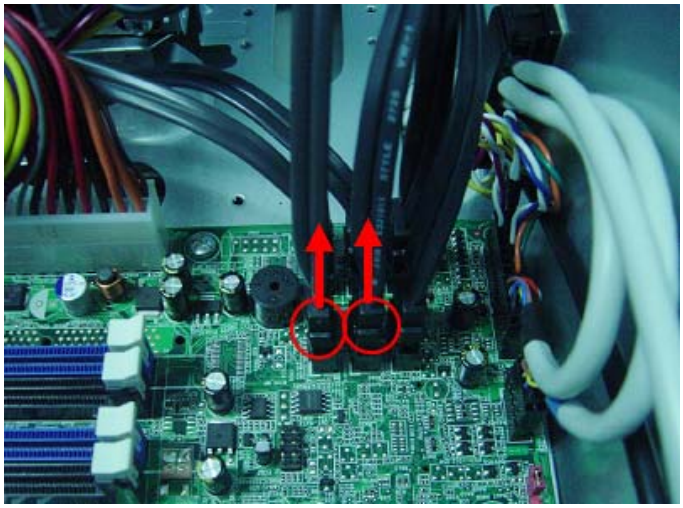
Removing the Hard Disk Drive

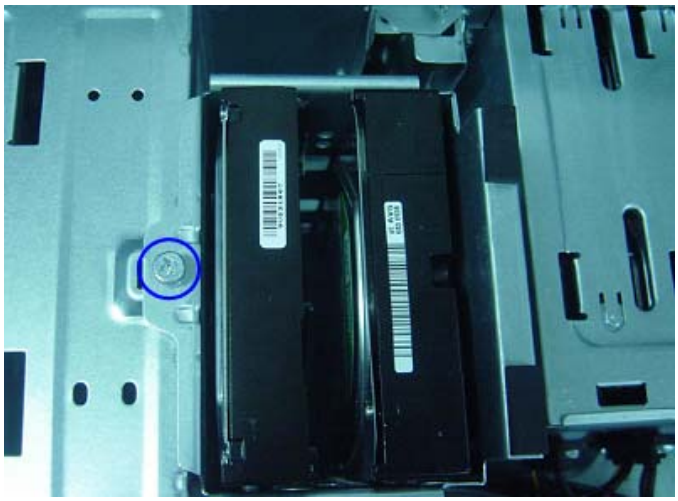
1. Disconnect the data and power cables from the rear of the optical drive and the mainboard.



2. Disconnect the other end of the data cable from the mainboard.



3. Remove the HDD bracket
   a. Remove the screw that secures the HDD bracket to the ODD bracket.



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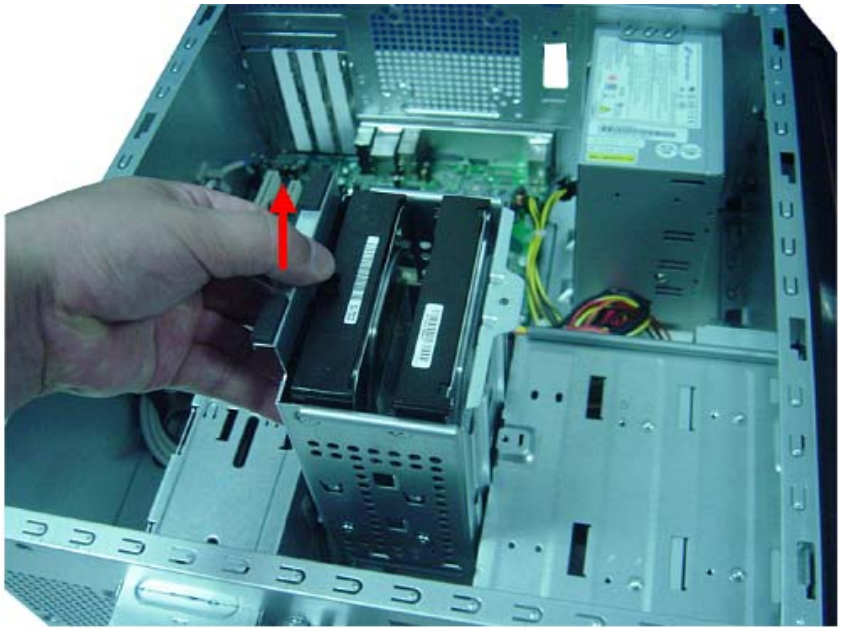
b. Lift the bracket up and turn it over.



4. Place the bracket on a clean, static-free work surface.
5. Remove the HDD module

a. Remove the four screws secure the HDD module to the HDD bracket.

b. Slide the HDD out of the bracket.

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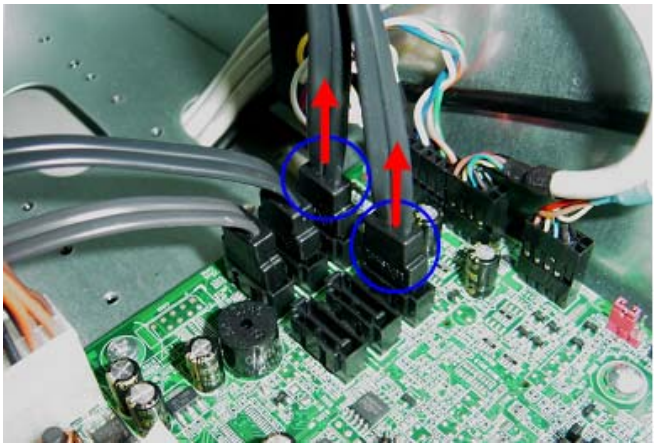
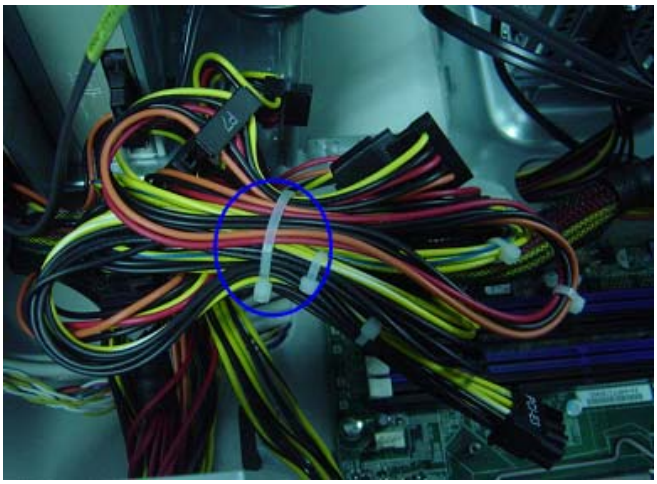
Removing the Removable Hard Disk Drive

1. Disconnect the removable HDD cable.

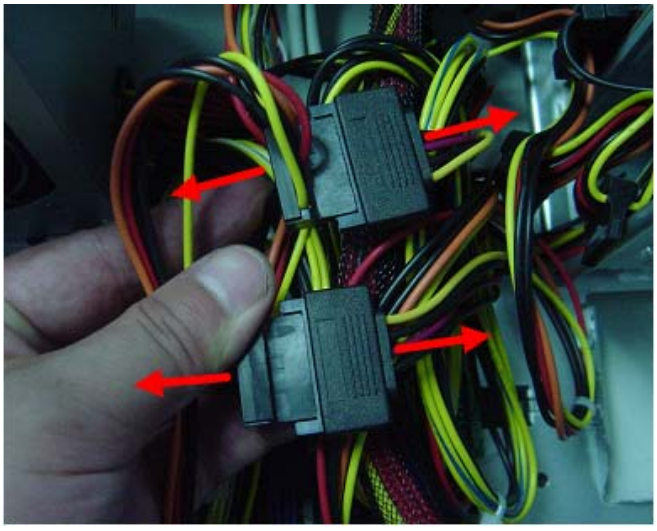
   a. Disconnect the removable HDD date cable from the motherboard.



   b. Use a knife to cut off the PE belt then disconnector the cable.



   c. Disconnector the power cable of the removable HDD.



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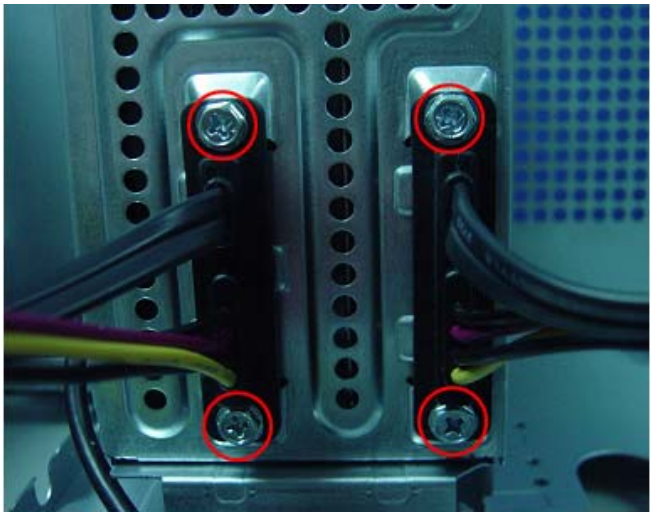
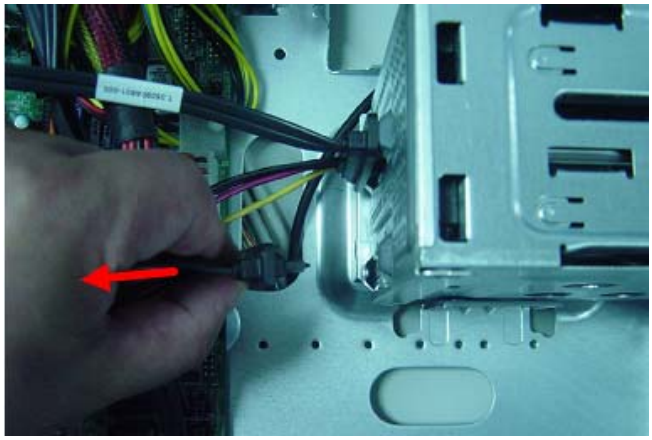
d. Remove the four screws.

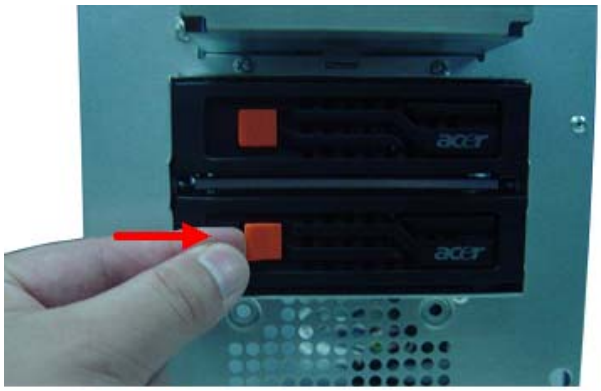


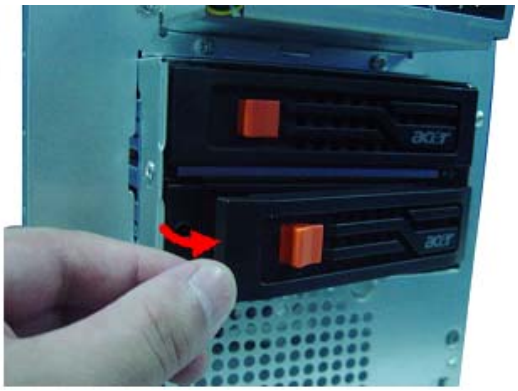
e. Pull the two removable HDD cables.



2. Remove the removable HDD module.

a. Gently push the drive block key rightward,then open the door.





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b. Slide the removable HDD tray out of the removable HDD bracket.

a. Use a hand to open out the removable HDD tray until the hook of HDD bracket away from the HDD screw bore. then use other hand to take out the HDD module.

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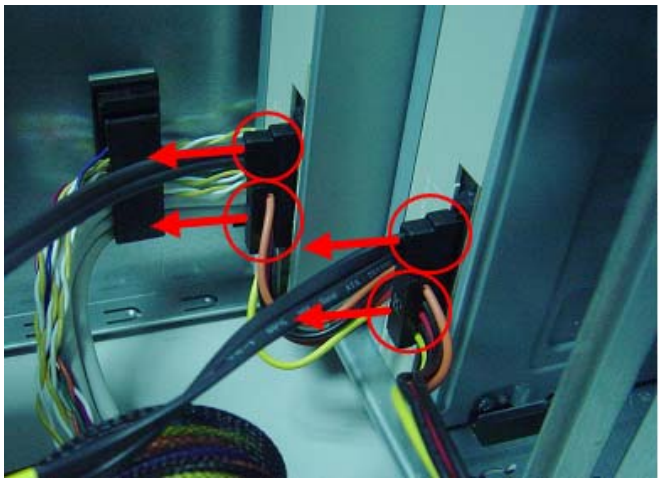
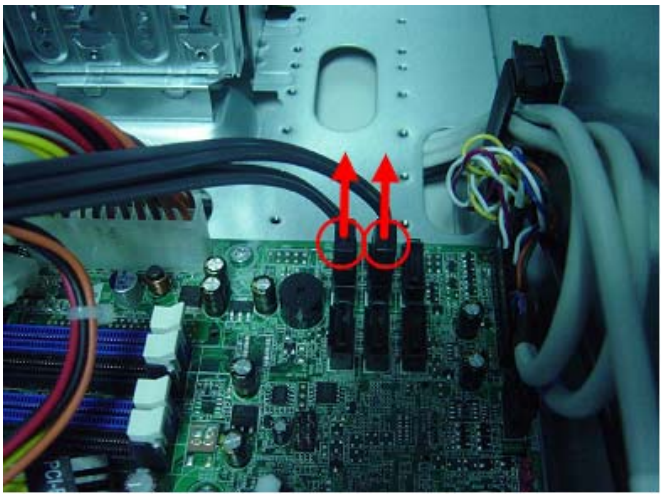
Removing the Optical Drive

1. Disconnect the data and power cable from the rear of the optical drive.



2. Disconnect the other end of the data cable from the mainboard.



3. Remove the four screws from the optical drive.

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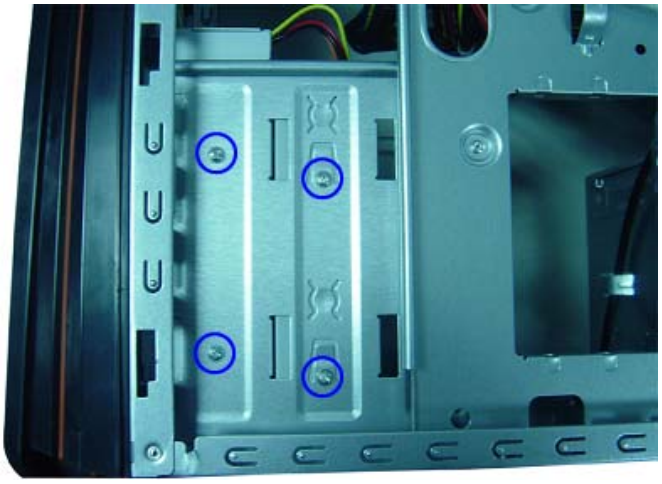
4. Remove the four screws from the optical drive on the other side.



5. Pull the drive out of the drive.

6. Remove the slave optical drive with the same way.

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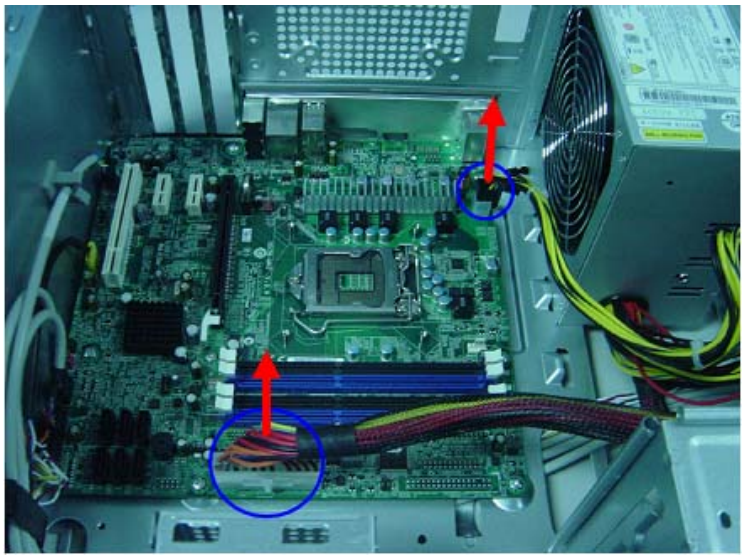
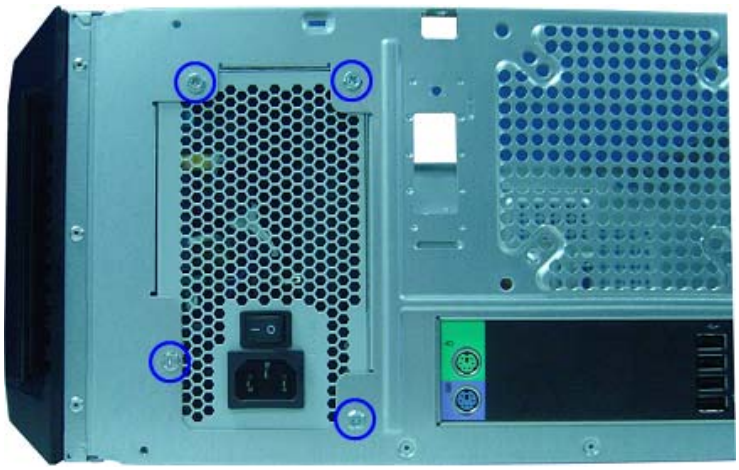
Removing the Power Supply

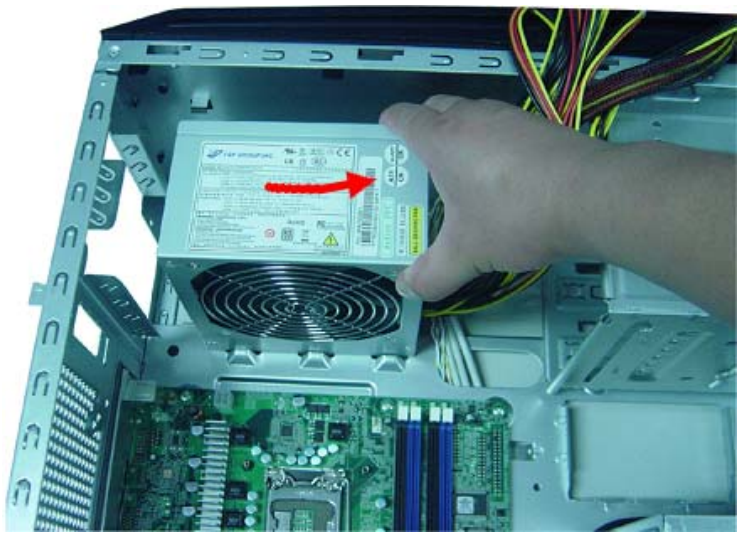
1. Disconnect the 4-pin and 24-pin power supply cables from the mainboard.



2. Remove the four screws that secures the power supply to the rear panel.



3. Lift the power supply module out of the chassis.



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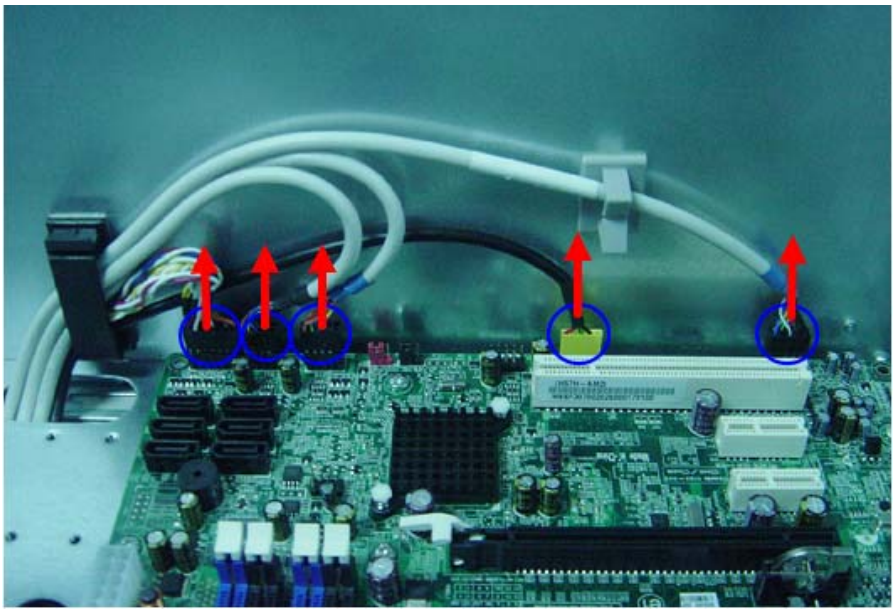
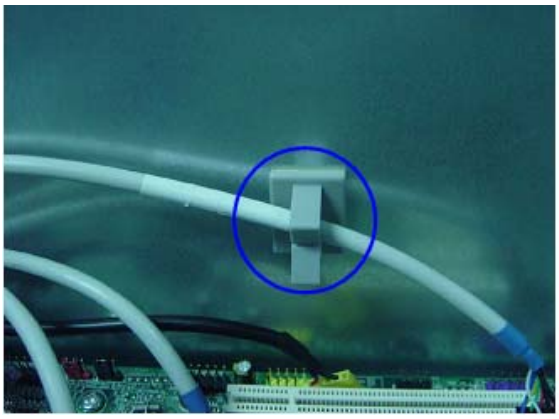
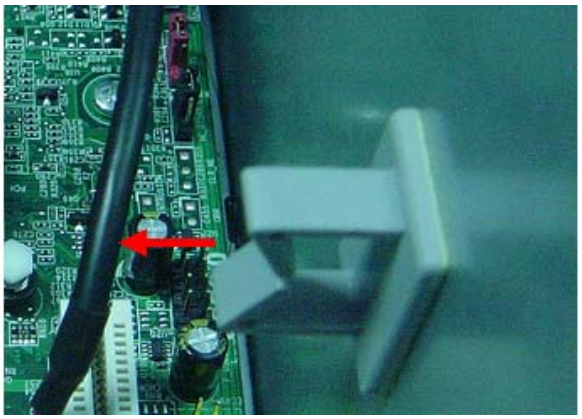
Removing the Motherboard

1. Disconnect the front audio,card reader,front USB,front panel cable from the motherboard.

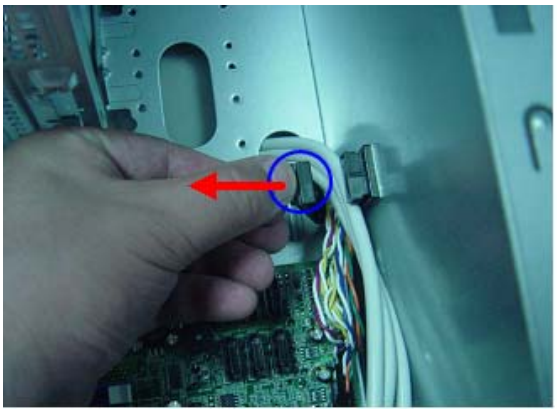


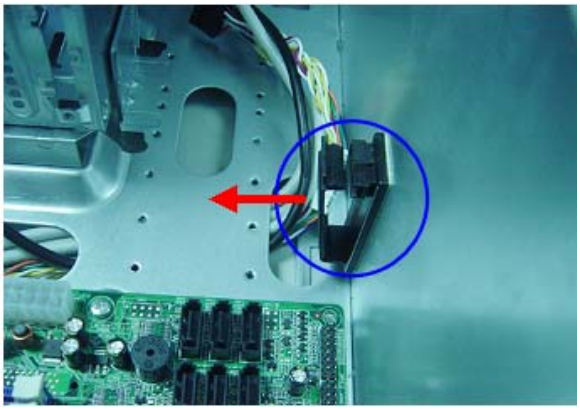
2. Take out the front audio cable from the cable clip and disassemble the cable clip.





3. Open cable clip then take out these cables. at the same time disassemble the cable clip.





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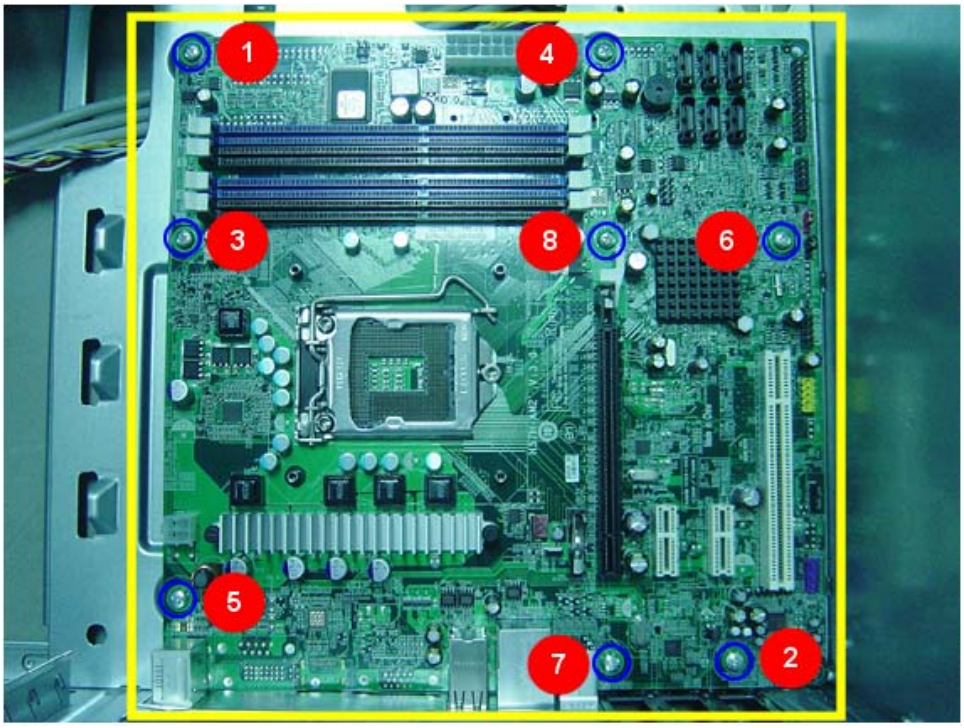
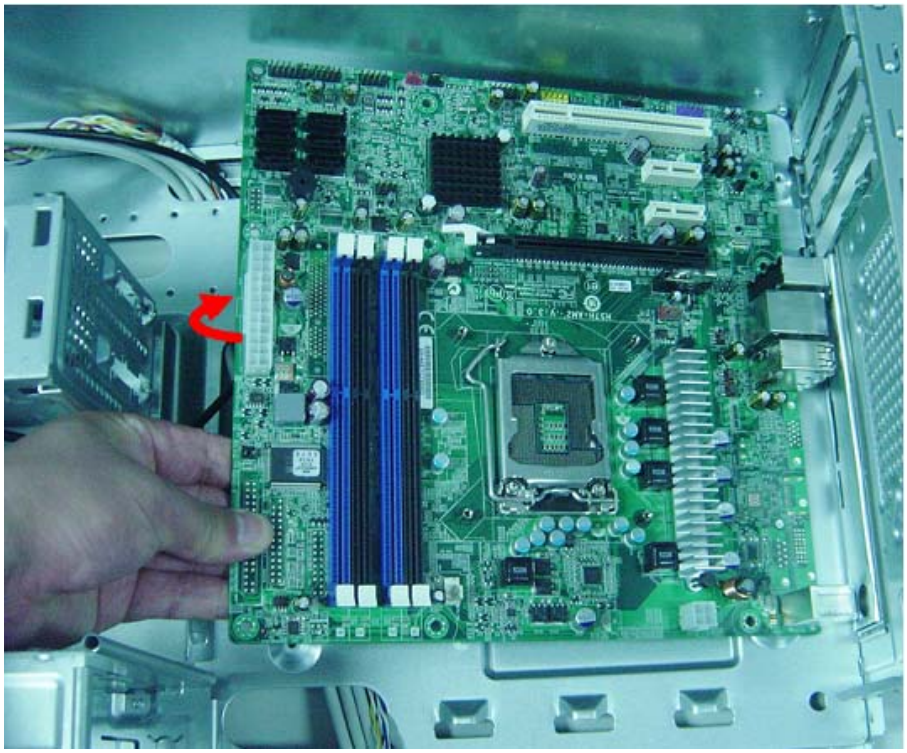
4. Remove the eight screws that secure the mainboard to the chassis.



Note: Circuit boards >10 cm² has been highlighted with the yellow rectangle as above image shows.

Please detach the Circuit boards and follow local regulations for disposal.

5. Lift the board from the chassis.



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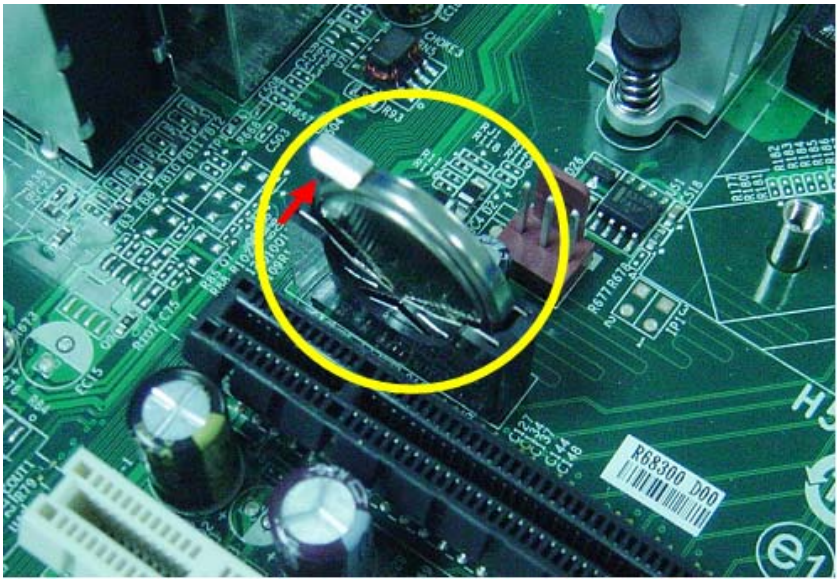
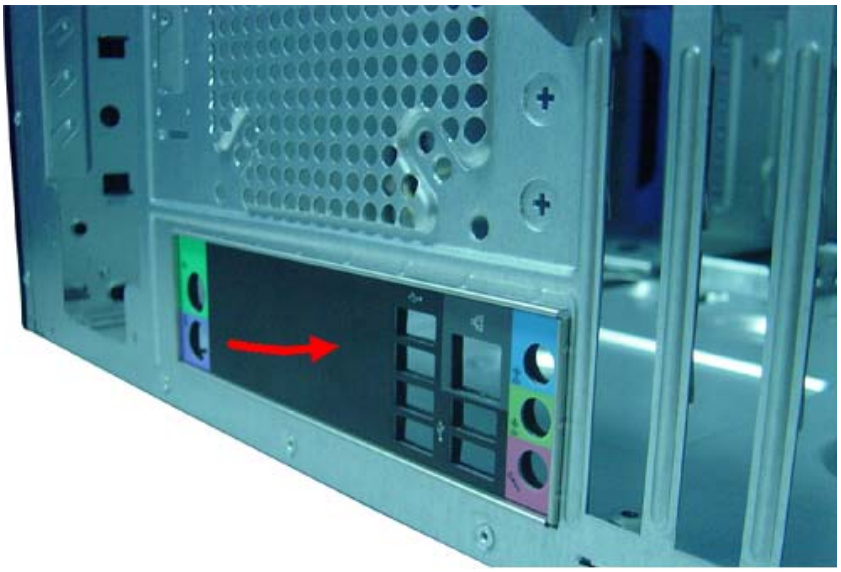
6. Remove the RTC battery.



Note:RTC battery has been highlighted with the yellow circle as above image shows.Please detach the RTC battery and follow local regulations for disposal.

7. Punching in IO Shield then you can remove it.



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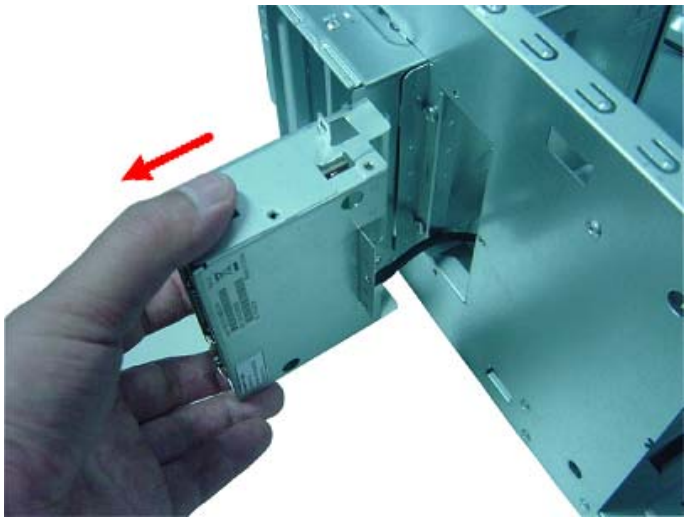
Removing the Card Reader

1. Remove the three screws that secure the bracket to the chassis.

2. Pull the card reader bracket out of the chassis.



3. Use a long-nosed screwdriver to remove the two screws.

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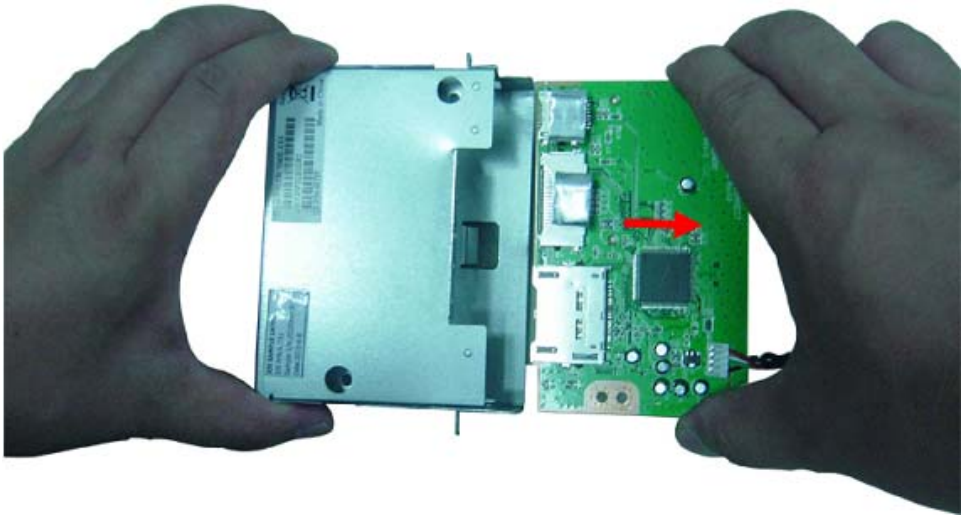
4. Pull the card reader board out of the bracket.



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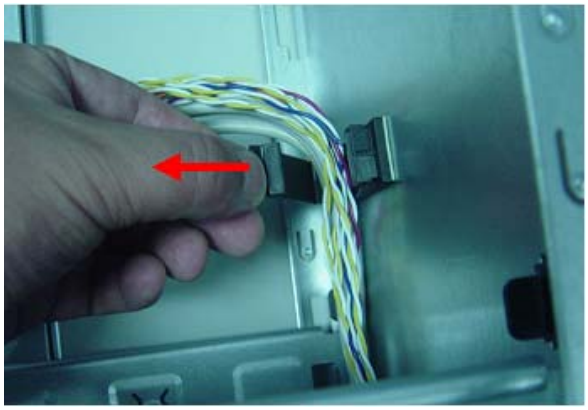
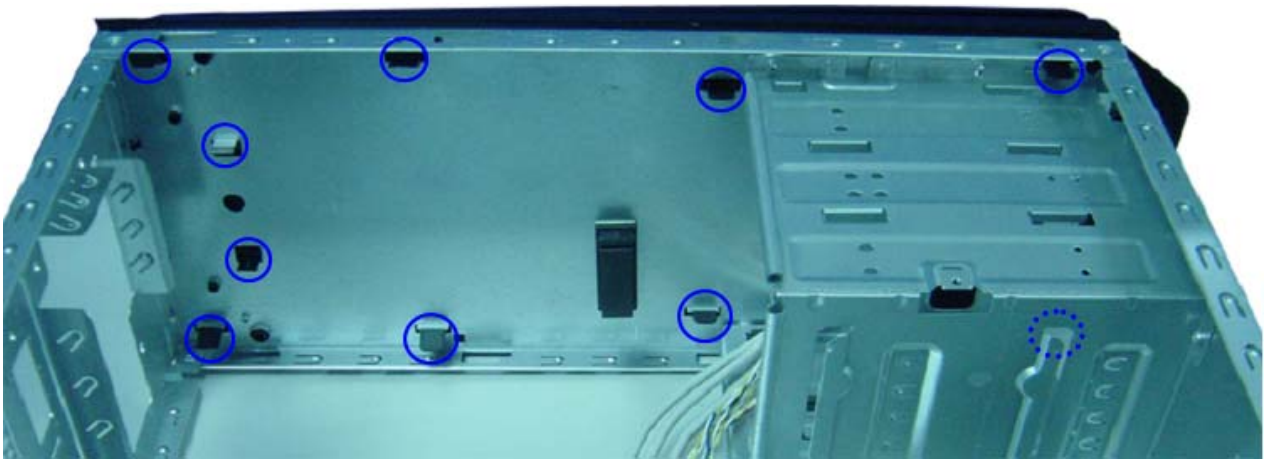
Removing the Top Cover

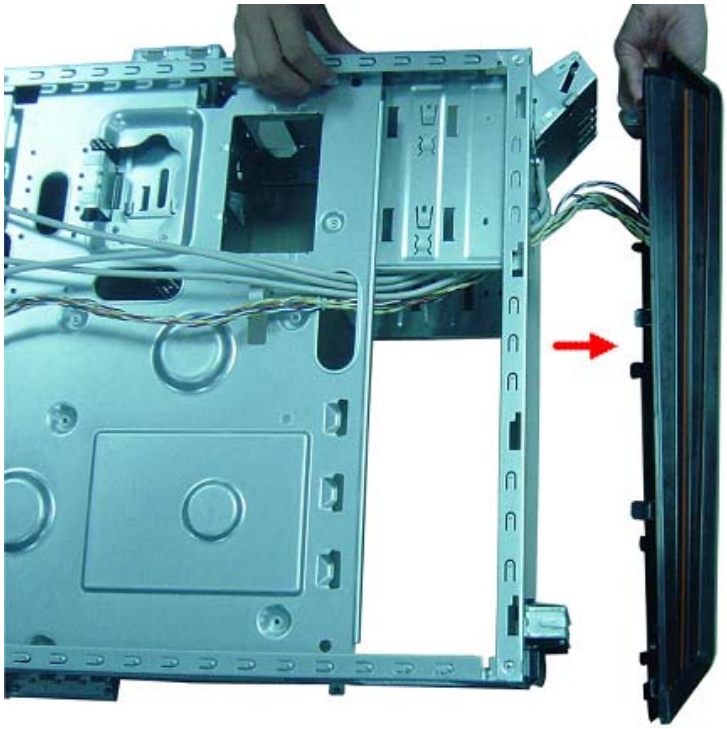
1. Open the cable clip,then take out the Power switch/Front I/O /Audio cable.



2. Gently release the top bezel retention tabs from the chassis interior.



3. Pull the top cover away from the chassis.



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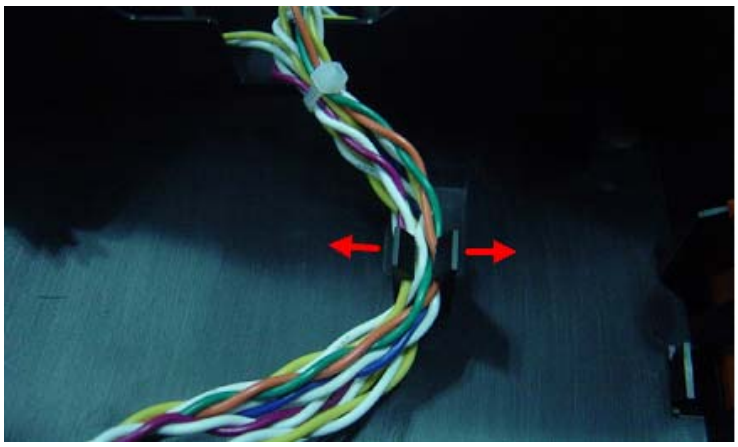
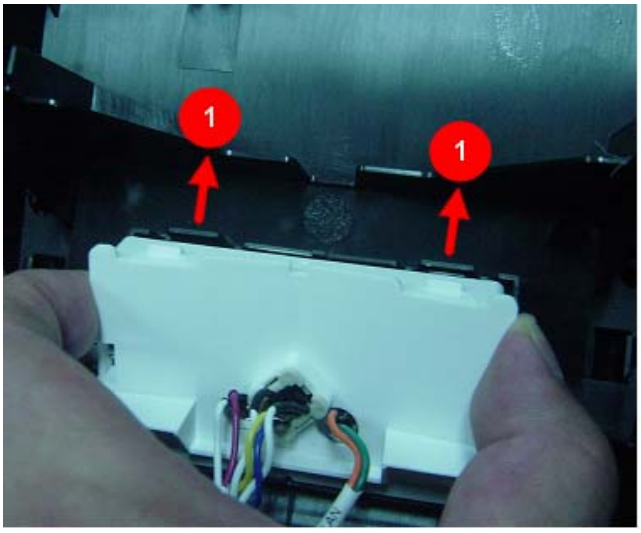
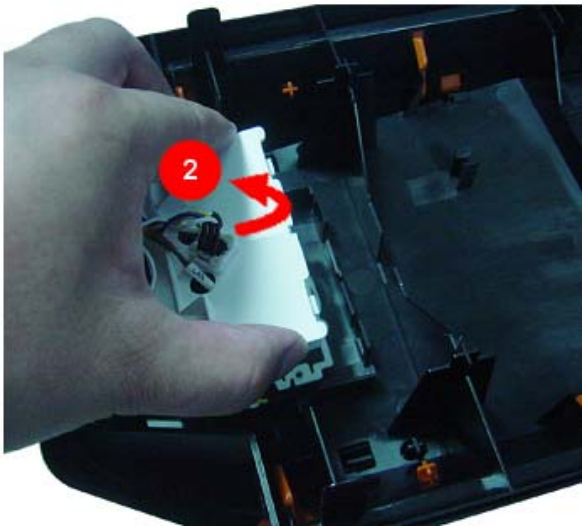
Removing the Power Switch and LED Cable Assembly

1. Release the two locking tabs and take out the front panel cable.

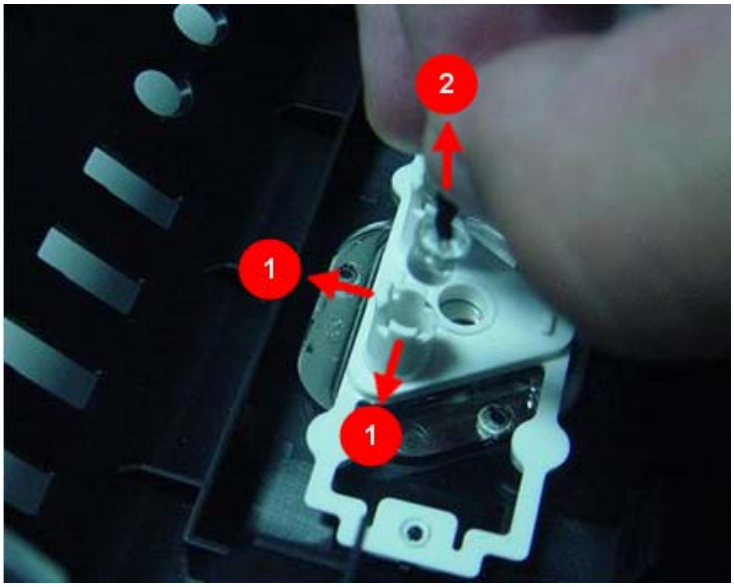


2. Release the two locking tabs (1) and gently take out the power switch and LED cable assemble(2).





3. Release the HDD and LAN LED.
   a. Release the locking tabs (1) and gently pull the HDD LED cable out (2).



   b. Gently pull out the LAN LED cable with the same way.

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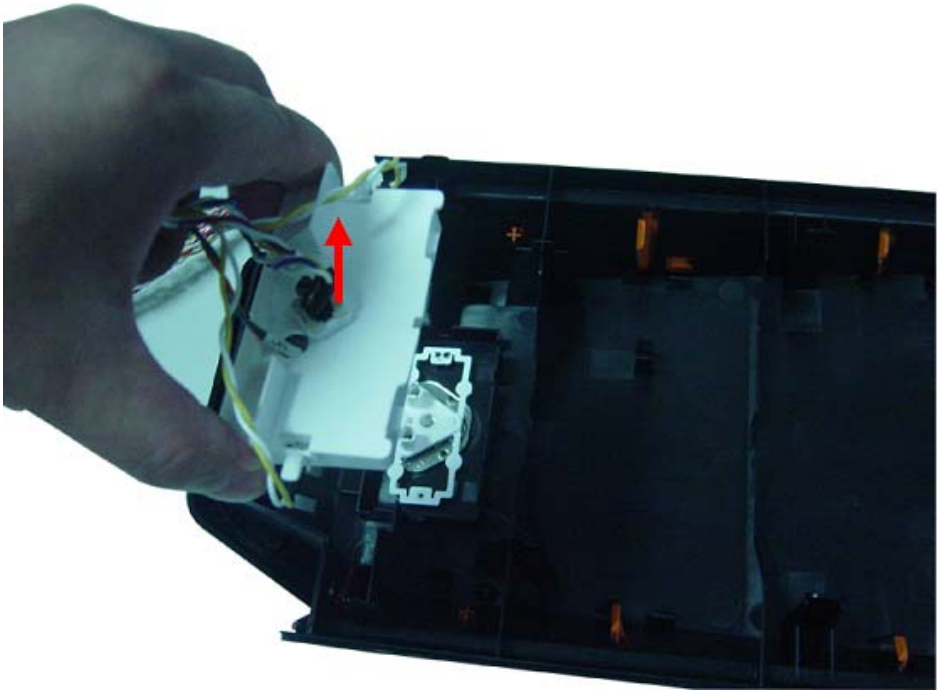
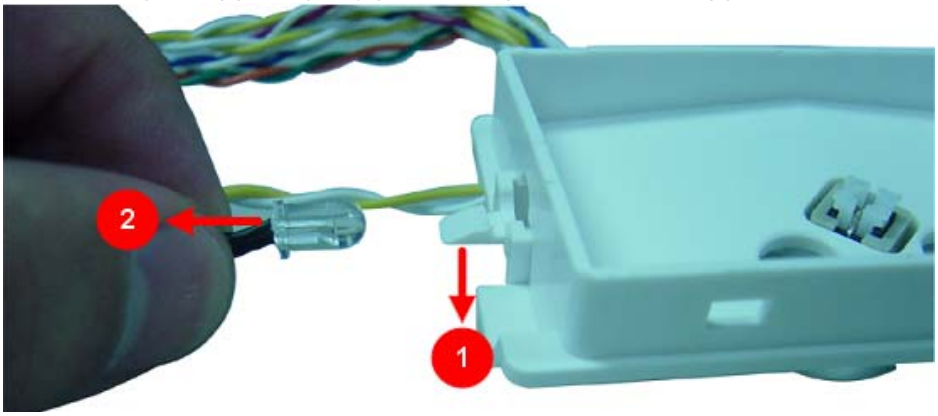
4. Separate the power switch and LED cable assemble from the top cover.

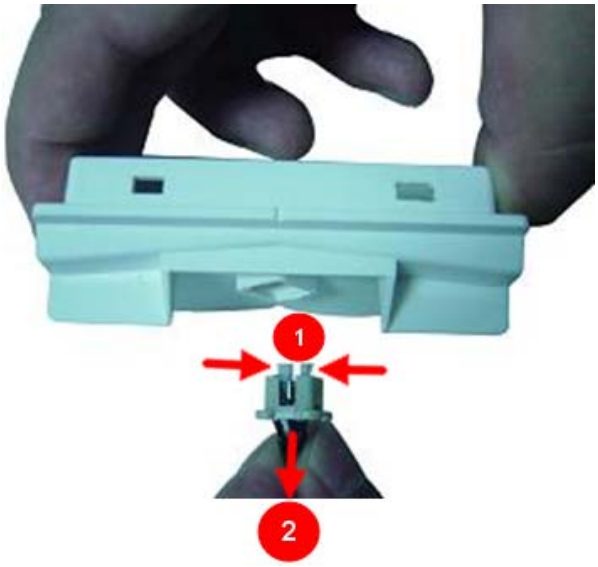


5. Release the locking tabs (1) and gently pull out the power LED cable (2).



6. Gently pull out the other power LED cable with the same way.

7. Grasp the power switch and LED cable bracket,and Release the two locking tabs (1), pull power switch cable out of the bracket (2).



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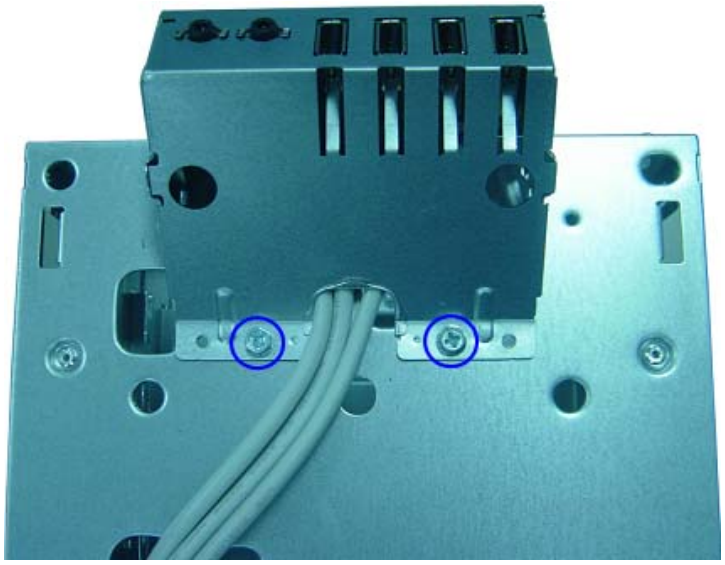
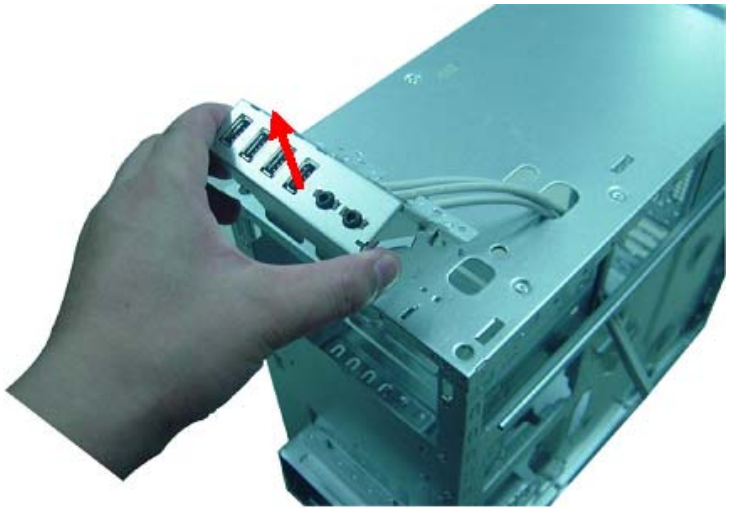
Removing the Front I/O and USB Board

1. Remove the two screws that secure the bracket to the chassis.



2. Lift the bracket out of the chassis.



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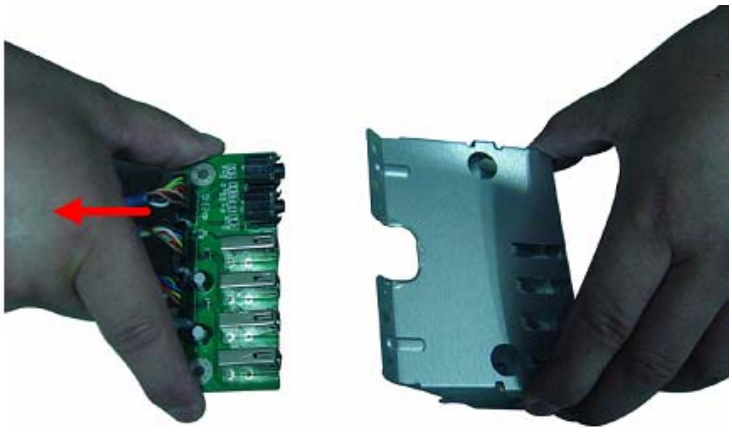
3. Use a long-nosed screwdriver to remove the two screws.

4. Grasp the bracket then gently Pull the USB board out of the bracket.



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Chapter 4

System Troubleshooting

This chapter provides instructions on how to troubleshoot system hardware problems.

Hardware Diagnostic Procedure

IMPORTANT: The diagnostic tests described in this chapter are only intended to test Acer products. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Obtain the failing symptoms in as much detail as possible.
2. Verify the symptoms by attempting to recreate the failure by running the diagnostic tests or repeating thesame operation.
3. Refer to “Power System check” and “Beep Codes” to determine which corrective action to perform.

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System Check Procedures

Power System Check

If the system will power on, skip this section. Refer to System External Inspection.

If the system will not power on, do the following:

- Check if the power cable is properly connected to the system and AC source.
- Check if the voltage selector switchis set to the correct voltage setting.

System External Inspection

1. Inspect the LED indicators on the front panel, which can indicate the malfunction.
2. Make sure that air flow is not blocked.
3. Make sure nothing in the system is making contact that could short out power.
4. If the problem is not evident, continue with System Internal Inspection.

System Internal Inspection

1. Turn off the system and all the peripherals connected to it.
2. Unplug the power cord from the power outlets.
3. Unplug the power cord from the system.
4. Unplug all peripheral cables from the system.
5. Place the system unit on a flat, stable surface.
6. Remove the system covers.For instructions on removing system covers, refer to “System Disassembly”.
7. Verify that components are properly seated.
8. Verify that all cable connectors inside the system are firmly and correctly attached to their appropriate connectors.
9. Verify that all components are Acer-qualified and supported.
10. Replace the system covers.
11. Power on the system.
12. If the problem with the system is not evident, you can try viewing the POST messages and BIOS event logs during the system startup.

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Beep Codes

Beep codes are used by the BIOS to indicate a serious or fatal error to the end user. Beep codes are used when an error occurs before the system video has been initialized. Beep codes will be generated by the system board speaker, commonly referred to as the PC speaker.

AMIBIOS displays the checkpoints in the bottom right corner of the screen during POST. This display method is limited, since it only displays checkpoints that occur after the video card has been activated.

Not all computers using AMIBIOS enable this feature. In most cases, a checkpoint card is the best tool for viewing AMIBIOS checkpoints.

Beep Symptom	Cause and Description
One short beep	System is ready. System is OK.
Continuous one long beep	Memory not installed or memory error.
One long beep and two short beeps then repeat.	VGA not installed or VGA error. Graphics card error/not installed, graphics card memory error or graphics card BIOS checksum error.
One long beep then two short beep	BIOS damaged. BIOS is damaged, BIOS POST jumps to Boot Block to execute the default procedures.
Two short beeps	CMOS damaged. CMOS checksum error or CMOS battery loss occurs.

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Checkpoints

A checkpoint is either a byte or word value output to I/O port 80h.The BIOS outputs checkpoints throughout bootblock and Power-On Self Test (POST) to indicate the task the system is currently executing. Checkpoint sare very useful in aiding software developers or technicians in debugging problems that occur during the pre-boot process.

Viewing BIOS checkpoints

Viewing all checkpoints generated by the BIOS requires acheckpoint card, also referred to as a POST card or POST diagnostic card. These are ISA or PCI add-in cards that show the value of I/O port 80h on a LED display. Checkpoints may appear on the bottom right corner of the screen during POST. This display method islimited, since it only displays checkpoints thatoccur after the video card has been activated.

Bootblock Initialization Code Checkpoints

The Bootblock initialization code sets up the chipset,memory, and other components before system memory is available. The following table describes the type of checkpoints that may occur during the bootblock initialization portion of the BIOS.

NOTE: Please note that checkpoints may differ between different platforms based on system configuration.Checkpoints may change due to vendor requirements,system chipset or option ROMs from add-in PCI devices.

Checkpoint	Description
Before D0	If boot block debugger is enabled, CPU cache-as-RAM functionality is enabled at this point. Stack will be enabled from this point.
D0	Early Boot Strap Processor (BSP) initialization like microcode update, frequency and other CPU critical initialization. Early chipset initialization is done.
D1	Early super I/O initialization is done including RTC and keyboard controller. Serial port is enabled at this point if needed for debugging. NMI is disabled. Perform keyboard controller BAT test. Save power-on CPUID value in scratch CMOS. Go to flat mode with 4GB limit and GA20 enabled.
D2	Verify the boot block checksum. System will hang here if checksum is bad.
D3	Disable CACHE before memory detection. Execute full memory sizing module. If memory sizing module not executed, start memory refresh and do memory sizing in Boot block code. Do additional chipset initialization. Re-enable CACHE. Verify that flat mode is enabled.
D4	Test base 512KB memory. Adjust policies and cache first 8MB. Set stack.
D5	Bootblock code is copied from ROM to lower system memory and control is given to it. BIOS now executes out of RAM. Copies compressed boot block code to memory in right segments. Copies BIOS from ROM to RAM for faster access. Performs main BIOS checksum and updates recovery status accordingly.
D6	Both key sequence and OEM specific method is checked to determine if BIOSrecovery is forced. Main BIOS checksum is tested. If BIOS recovery is necessary,control flows to checkpoint E0. See Bootblock Recovery Code Checkpoints sectionfor more information.
D7	Restore CPUID value back into register. The Bootblock-Runtime interface module is moved to system memory and control is given to it. Determine whether to execute serial flash.
D8	The Runtime module is uncompressed into memory. CPUID information is stored in memory.
D9	Store the Uncompressed pointer for future use in PMM. Copying Main BIOS into memory. Leaves all RAM below 1MB Read-Write including E000 and F000 shadow areas but closing SMRAM.

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Checkpoint	Description
DA	Restore CPUID value back into register. Give control to BIOS POST (ExecutePOSTKernel). See POST Code Checkpoints section of document for more information.
DC	System is waking from ACPI S3 state.
E1-E8 EC-EE	OEM memory detection/configuration error. This range is reserved for chipset vendors & system manufacturers. The error associated with this value may be different from one platform to the next.

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Bootblock Recovery Code Checkpoints

The Bootblock recovery code gets control when the BIOS determines that a BIOS recovery needs to occur because the user has forced the update or the BIOS checksum is corrupt. The following table describes the type of checkpoints that may occur during the Bootblock recovery portion of the BIOS.

NOTE: Checkpoints may differ between different platforms based on system configuration. Checkpoints maychange due to vendor requirements, system chipset or option ROMs from add-in PCI devices.

Checkpoint	Description
E0	Initialize the floppy controller in the super I/O. Some interrupt vectors are initialized. DMA controller is initialized. 8259 interrupt controller is initialized. L1 cache is enabled.
E9	Set up floppy controller and data. Attempt to read from floppy.
EA	Enable ATAPI hardware. Attempt to read from ARMD and ATAPI CDROM.
EB	Disable ATAPI hardware. Jump back to checkpoint E9.
EF	Read error occurred on media. Jump back to checkpoint EB.
F0	Search for pre-defined recovery file name in root directory.
F1	Recovery file not found.
F2	Start reading FAT table and analyze FAT to find the clusters occupied by the recovery file.
F3	Start reading the recovery file cluster by cluster.
F5	Disable L1 cache.
FA	Check the validity of the recovery file configuration to the current configuration of the flash part.
FB	Make flash write enabled through chipset and OEM specific method. Detect proper flash part. Verify that the found flash part size equals the recovery file size.
F4	The recovery file size does not equal the found flash part size.
FC	Erase the flash part
FD	Program the flash part.
FF	The flash has been updated successfully. Make flash write disabled. Disable ATAPI hardware. Restore CPUID value back into register. Give control to F000 ROM at F000:FFF0h.

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BIOS Recovery

1. This function only effects when the BIOS BootBlock section is healthy.
2. Allow to execute recovery function media: FDD / USB storage / ODD.
3. The recovery media to support Boot function is unnecessary.
4. Recovery step as follow:
   - **4-1.** Copy the latest BIOS ROM file to the root directory of recovery media.
   - **4-2.** Rename the BIOS ROM file to be "AMIBOOT.ROM".
   - **4-3.** Insert the recovery device to system and then power on the system.
   - **4-4.** Don't do anything during the recovery function to be progress but just only observe the recovery media has been loading or not.
   - **4-5.** If the recovery function run normally, the recovery function will execute 1~3 minutes.
   - **4-6.** The system will auto reboot after the recovery function finished and please enter the setup menu to load default after system reboot.

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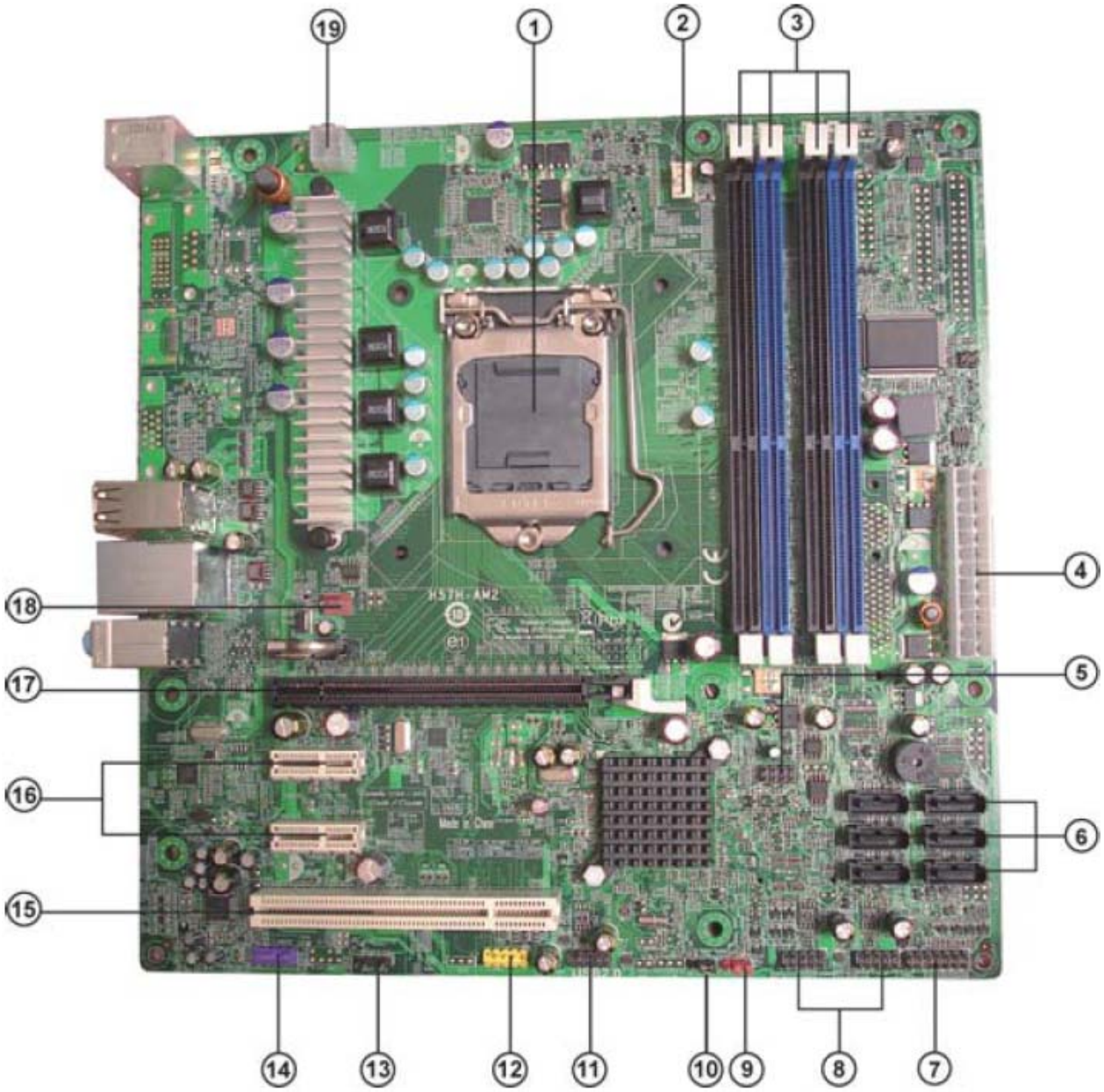
Jumper and Connector Information

M/B Placement



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No	Label	Description	No	Label	Description
1	CPU Socket	LGA1156 socket for Intel® Lynnfield/Havendale/ Clarkdale processors	11	F_USB2	Front panel USB header
2	CPU_FAN	CPU cooling fan connector	12	F_USB1	Front panel USB header (Card Reader)
3	DIMM1~4	240-pin DDR3 SDRAM slots	13	SPDIF_OUT1	SPDIF out header
4	ATX1	Standard 24-pin ATX power connector	14	F_AUDIO1	Front panel audio header
5	SPI_DEBUG	SPI debug header	15	PCI1	32-bit add-on card slot
6	SATA1~6	Serial ATA connectors	16	PCIE1X-1~2	PCI Express x1 slots
7	F_PANEL	Front panel switch/LED header	17	PCIE16X	PCI Express slot for graphics interface
8	F_USB3~4	Front panel USB headers	18	SYS_FAN	System cooling fan connector
9	CLR_CMOS	Clear CMOS jumper	19	ATX_12V	4-pin +12V power connector
10	ME_DISABLE	Intel® Management Engine header(jumper)			

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Jumper Setting

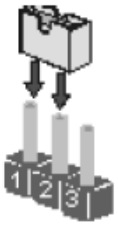
The section explains how to set jumper for correct configuration of the mainboard.

Setting Jumper

Use the motherboard jumpers to set system configuration options. Jumpers with more Than one pin are numbered. When setting the jumpers, ensure that the jumper caps are Placed on the correct pins.

The illustrations show a 2-pin jumper.When the jumper cap is placed on bothpins, the jumper is SHORT. If you re-move the jumper cap, or place the jumpercap on just one pin, the jumper is OPEN.

This illustration shows a 3-pin jumper.Pins 1 and 2 are SHORT.



Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 islabeled.

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Jumper Settings

Jumper	Type	Descriptio	Setting (default)	
CLR_CMOS	3-pin	CLEAR CMOS	1-2: NORMAL 2-3: CLEAR Before clearing theCMOS, make sure toturn the system off.	
ME_DISABLE	3-pin	ME_DISABLE	1-2: NORMAL 2-3: ME_DISABLE	

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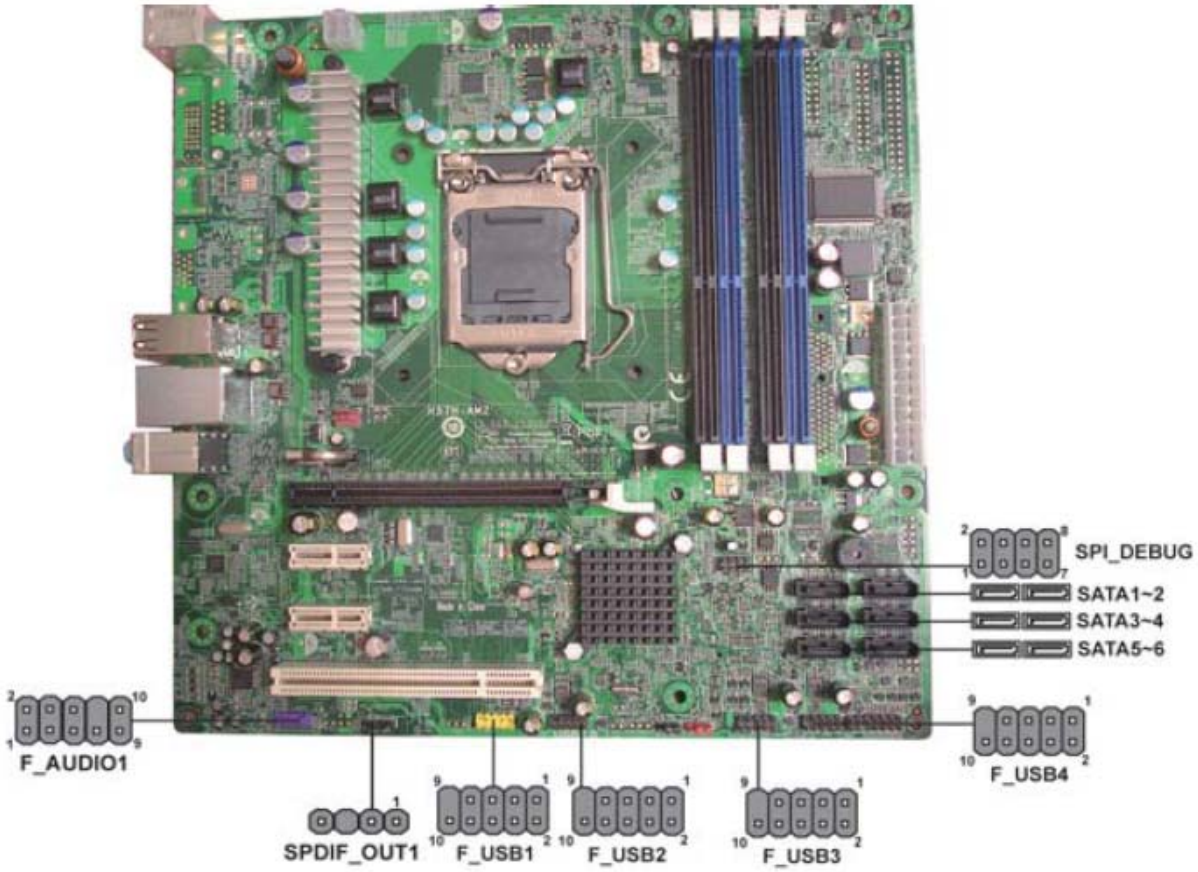
Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optionaldevices:



SATA1~6: Serial ATA connectors

These connectors are used to support the new Serial ATA devices for the highest datatransfer rates (3.0 Gb/s), simpler disk drive cabling and easier PC assembly. It elimi-nates limitations of the current Parallel ATA interface. But maintains register com-patibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground		

F_AUDIO1: Front Panel Audio header for Azalia

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Pin	Signal Name
1	PORT 1L	2	AUD_GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	SENSE1_RETURN
7	SENSE_SEND	8	KEY
9	PORT 2L	10	SENSE2_RETURN

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F_USB1~4: Front Panel USB headers

The motherboard has four USB ports installed on the rear edge I/O port array.Additionally, some computer cases have USB ports at the front of the case. If youhave this kind of case, use auxiliary USB connector to connect the front-mountedports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	NC

SPDIF_OUT1: SPDIF out header

This is an optional header that provides an SPDIF_OUT (Sony/Philips Digital Inter-face) output to digital multimedia device through optical fiber or coaxial connector.

Pin	Signal Name	Pin	Signal Name
1	+5V	2	KEY
3	SPDIF	4	GND

SPI_DEBUG: SPI_DEBUG header

Pin	Signal Name	Pin	Signal Name
1	CS	2	WP
3	DI	4	HOLD
5	VCC	6	CLK
7	GND	8	DO

GPIO0~1: Button recovery jumper

Pin	Signal Name
1	GP36(GP16)
2	GND

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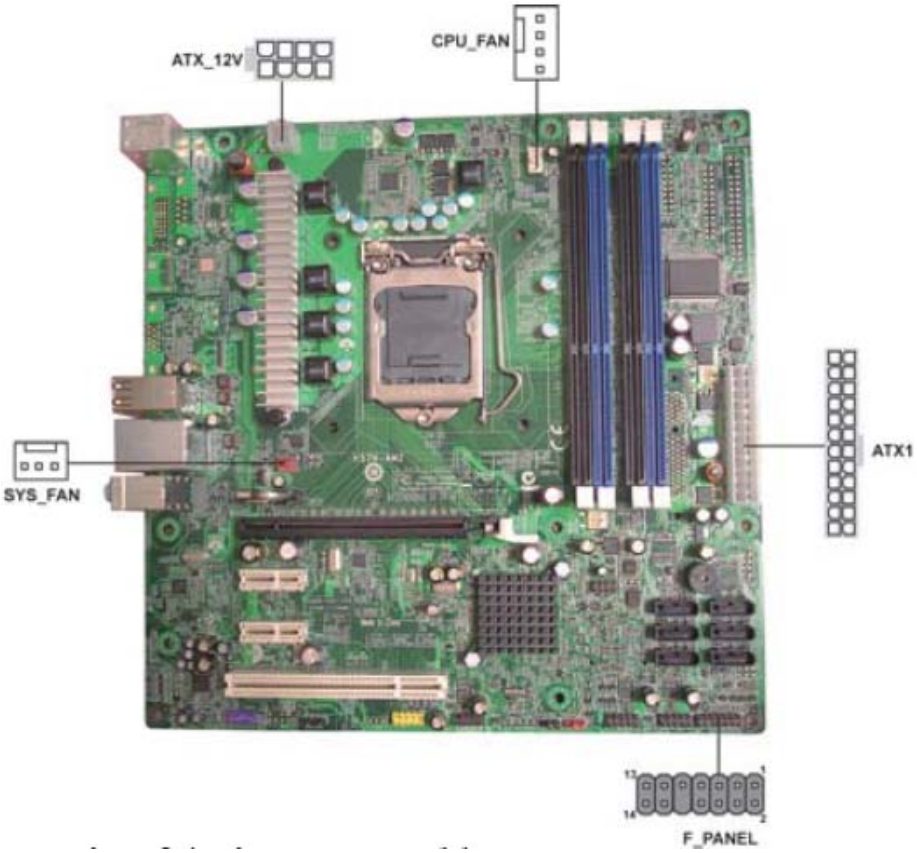
Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting themotherboard components. Refer to the following:

1. Connect the CPU cooling fan cable to CPU_FAN.
2. Connect the standard power supply connector to ATX1.
3. Connect the case switches and indicator LEDs to the F_PANEL.
4. Connect the system cooling fan connector to SYS_FAN.
5. Connect the auxiliary case power supply connector to ATX_12V.



CPU_FAN1: CPU Cooling FAN Power Connector

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	PWM

ATX_POWER: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	Ground
4	+5V	16	PS_ON

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Pin	Signal Name	Pin	Signal Name
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground

SYS_FAN1: System Cooling FAN Power Connector

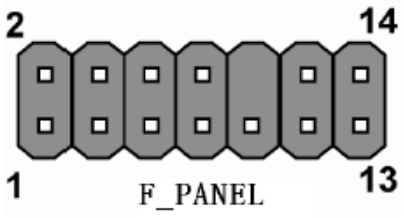
Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

ATX12V1: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Front Panel Header

The front panel header (F_PANEL) provides a standard set of switch and LEDheaders commonly found on ATX or micro-ATX cases. Refer to the table below forinformation:



Pin	Signal Name	Function	Pin	Signal Name	Function
1	VCC	5V	2	GLED0	MSG LED
3	HDD_LEDN	Hard disk LED	4	GLED1	MSG LED
5	GND	Ground	6	PWRSW	Power Switch
7	HWRST_L	Reset	8	GND	GROUND
9	F_PANEL_DET	FRONT PANEL DETECT	10	KEY	No pin
11	NC	Reserved	12	VCC	5V
13	NC	Reserved	14	F_LAN_LED	FRONT PANEL LED

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Chapter 6

FRU (Field Replaceable Unit) List

This chapter offers the FRU (Field Replaceable Unit) list in global configuration of the Predator G5900 desktop computer. Refer to this chapter whenever ordering the parts to repair or for RMA (Return Merchandise Authorization).

NOTES:

- When ordering FRU parts, check the most up-to-date information available on your regional web or channel. For whatever reasons a part number is changed, it will NOT be noted on the printed Service Guide. For Acer authorized service providers, your Acer office may have a different part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for service.
- To scrap or to return the defective parts, follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.
- This document will be updated as more information about the FRU list becomes available.

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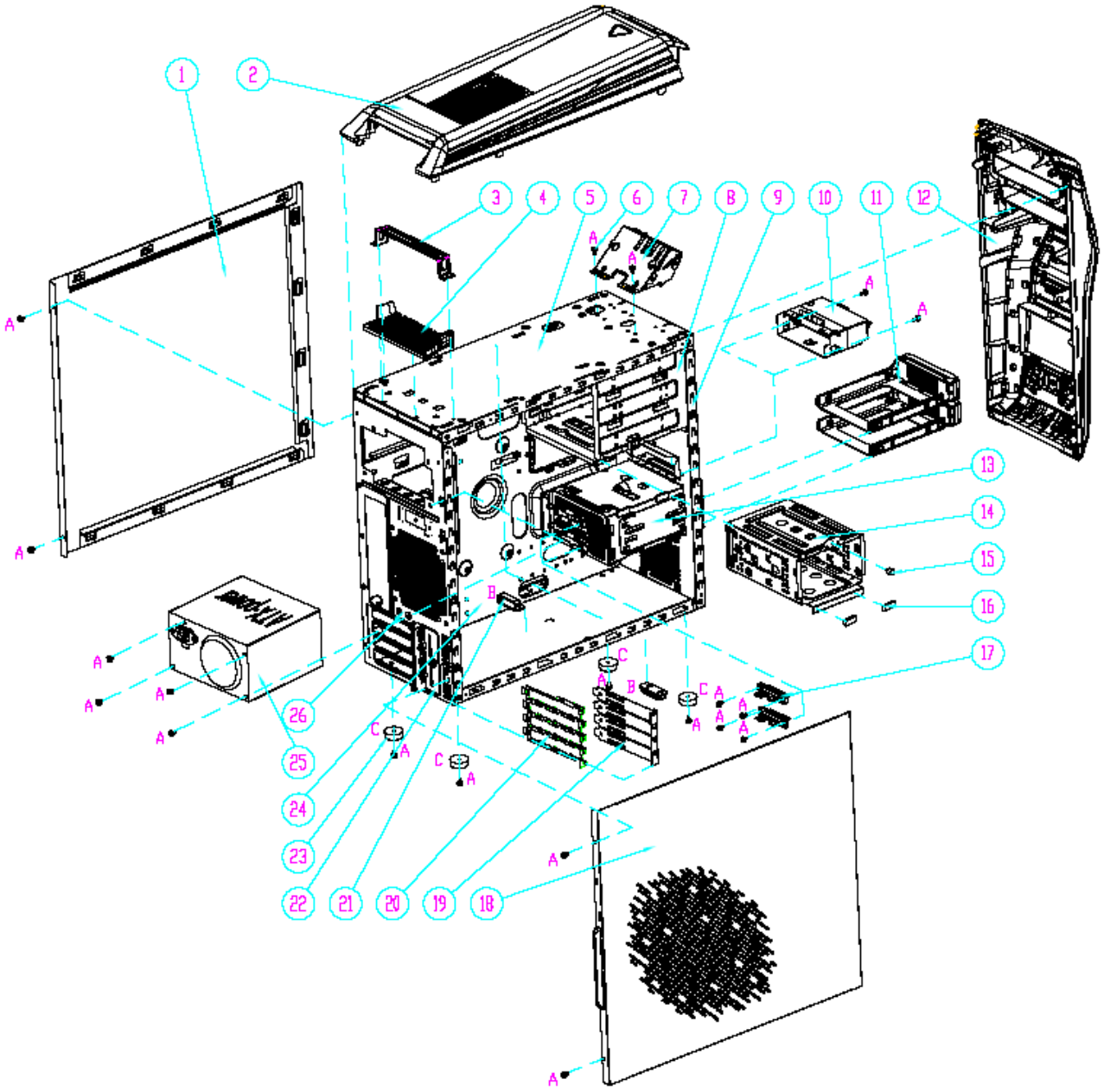
Predator G5900 Exploded Diagram

NOTE: This section will be updated when more information becomes available.



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ITEM	NAME	Q'TY	ITEM	NAME	Q'TY
1	1-RIGHT-SIDE-X1	1	14	1-HDD-BKT-X2	1
2	2-TOP-COVER	1	15	THUMB-SCREW-2	1
3	CHASSIS-HANDLE	1	16	HDD-RUBBER	2
4	2-TOP-COVER07	1	17	CUS-LV2122K	2
5	1-TOP-PLATE	1	18	1-LETF-SIDE-X1	1
6	SCREW_M632-6	20	19	35FNF_AOO	4
7	G5-ASSY-FRONT-IO-BD-NEW1_ASM(TOP IO)	1	20	2-PCI-SHIELD	1
8	1-ODD-BKT-X4	1	21	CABLE-CLIP	2
9	1-FBB-PLATE-0611	1	22	PCI-DOOR-01	1
10	16IN5-WITH-1394-X1_ASM(MCR)	1	23	ACER_JOPLIN_RUBBER-BACK-FOOT	4
11	HT-361-HDD-CARRIER	2	24	1-MB-BKT-X4	1
12	2-FRONT-COVER	1	25	ATX-POWER-AA	1
13	GJ-HDD-BKT-NEW	1	26	1-BACK-X4	1

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Predator G5900 FRU List

Category	Description	Part Number	Exploded Diagram Item
Main board			
	MB Kit aSampras_G EIH57MK for G5 Intel H57 Realtek RTL8111E Giga LAN ATX W/O 1394 V1.0 LF w/o onboard VGA	MB.SF307.002	N/A
	Mainboard aSampras_G EIH57M for G5 Intel H57 Realtek RTL8111E Giga LAN ATX W/O 1394 V1.0 LF w/o onboard VGA	MB.SF307.001	
Chassis			
	HT081C chassis w/ 2 Hotswap HDD bay w/black R&L side panel for AT712 G5 bezel	HS.13100.128	N/A
Bezel			
	AT712 Aspire G5 Bezel w/black+orange bezel for HT081C chassis	PZ.11900.203	N/A
Card Reader			
	16-in-1 CR RI731 UT330-LK, 550mm USB cable, for G5	CR.10400.117	N/A
	16-in-1 CR RT5181, 550mm USB cable, for G5	CR.10400.119	
CPU Cooler			
	Cooler Intel LGA 1156 FXC PKP775G01U12 w/i duct	HI.10800.049	N/A
	CM iCooler LGA1156 w/i pure al 93x93x40h w/i 9025 fan w/i 75mm duct	HI.10800.058	
	130W	TBD	
CPU			
	CPU Intel Core i7 880 LGA 3.06G 8M 1333 1156 95W Quad-Core	KC.88001.CI7	N/A

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Category	Description	Part Number	Exploded Diagram Item
	CPU Intel Core i7 875K LGA 2.93G 8M 1333 1156 95W B-1 Quad Core	KC.87501.CI7	
	CPU Intel Core i7 870 LGA 2.93G 8M 1333 1156 95W B-1 Quad Core	KC.87001.CI7	
	CPU Intel Core i7 860 LGA 2.8G 8M 1333 1156 95W B-1 Quad Core	KC.86001.CI7	
	CPU Intel Core i5 750 LGA 2.66G 8M 1333 1156 95W B-1	KC.75001.CI5	
	CPU Intel Core i5 680 LGA 3.6G 4M 1333 1156 73W Dual-Core	KC.68001.CI5	
	CPU Intel Core i5 670 LGA 3.46G 4M 1333 1156 C-2 73W, Dual Core	KC.67001.CI5	
	CPU Intel Core i5 660 LGA 3.33G 4M 1333 1156 C-2 73W Dual Core	KC.66001.CI5	
	CPU Intel Core i5 650 LGA 3.2G 4M 1333 1156 C-2 73W, Dual Core	KC.65001.CI5	
	CPU Intel Core i5 655K LGA 3.2G 4M 1333 1156 73W K-0 Dual Core	KC.65501.CI5	
System Fan			
	SYSTEM FAN KDE 1209/GP 92*92*25 (ROHS)	HI.S150F.002	N/A
Memory			
	M378B2873FHS-CH9 LF 128*8 46nm	KN.1GB0B.036	N/A
	M378B5673FH0-CH9 LF 128*8 46nm	KN.2GB0B.024	
	ACR128X64D3U1333C9 LF 128*8 0.07um	KN.1GB07.002	
	ACR256X64D3U1333C9 LF 128*8 0.07um	KN.2GB07.002	
	GU502203EP0201 LF 128*8 0.065um	KN.1GB0H.015	
	GU512303EP0202 LF 128*8 0.065um	KN.2GB0H.009	
	75.073C1.G02 LF 128*8 0.065um	KN.1GB01.031	
	75.A73C1.G02 LF 128*8 0.065um	KN.2GB01.025	
HDD			
	"HDD HGST 3.5"" 7200rpm 500GB HDS721050CLA362 (Jupiter) SATA II 16MB LF F/W:3EA"	KH.50007.012	N/A

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Category	Description	Part Number	Exploded Diagram Item
	"HDD HGST 3.5"" 7200rpm 640GB HDS721064CLA332 (Jupiter) SATA II 32MB LF F/W:3EA"	KH.64007.002	
	"HDD HGST 3.5"" 7200rpm 1000GB HDS721010CLA332 (Jupiter) SATA II 32MB LF F/W:3EA"	KH.01K07.003	
	"HDD HGST 3.5"" 5700rpm 1000GB HCS5C1010CLA382 (Cool Spin Jupiter) SATA II 8MB LF F/W:3EA"	KH.01K07.004	
	"HDD SEAGATE 3.5"" 7200rpm 500GB ST3500418AS(Pharaoh) SATA II 16MB LF F/W:CC44"	KH.50001.012	
	"HDD SEAGATE 3.5"" 7200rpm 500GB ST3500418AS(Pharaoh PB) SATA II 16MB LF F/W:CC44"	KH.50001.019	
	"HDD SEAGATE 3.5"" 7200rpm 1000GB ST31000528AS(Pharaoh BP) SATA II 32MB LF F/W:CC44"	KH.01K01.013	
	"HDD SEAGATE 3.5"" 7200rpm 1500GB ST31500341AS(Brinks) SATA II 32MB LF F/W:CC4H"	KH.15K01.002	
	"HDD WD 3.5"" 7200rpm 500GB WD5000AAKS-22V1A0 SATA II 16MB LF F/W:05.01D05"	KH.50008.014	
	"HDD WD 3.5"" 7200rpm 640GB WD6400AAKS-22A7B2 XL320M 640G SATA II 16MB LF F/W:01.03B01"	KH.64008.003	
	"HDD WD 3.5"" 5400rpm 1000GB WD10EADS-22M2B0 (GP500) SATA II 32MB LF F/W:01.00A01"	KH.01K08.005	
	"HDD WD 3.5"" 5400rpm 1000GB WD10EARS-22Y5B1 (GP500M-2D 4K sector) SATA II LF F/W:80.00A80"	KH.01K08.008	
	"HDD WD 3.5"" 5400rpm 1500GB WD15EADS-22P8B0 (GP500) SATA 32MB LF F/W:01.00A01"	KH.15K08.001	
	"HDD WD 3.5"" 5400rpm 2000GB WD20EADS-22R6B0 (GP500) SATA II 32MB LF F/W:01.00A01"	KH.02K08.001	
SSD			
	INTEL SSD NAND 80GB SSDSA2MJ080G2AC MM#908112 Z-Height 9.5mm LF+HF	KF.0800N.008	N/A
	INTEL SSD NAND 160GB SSDSA2MH160G2AC MM#908113 9.5mm LF+HF	KF.1600N.005	
ODD			
	ODD HLDS DVD-ROM HH 16X DH20N LF+HF Black Bezel SATA w/Win7	KV.0160D.016	N/A
	ODD PLDS DVD-ROM HH DL 16X DH-16D5SH LF+HF Black Bezel SATA w/Win7	KV.0160F.002	

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Category	Description	Part Number	Exploded Diagram Item
	ODD TOSHIBA DVD-ROM HH DL 16X TS-H353C LF Black Bezel SATA (HF+Win7)	KV.01601.001	
	ODD HLDS Super-Multi DRIVE HH DL 16X GH60N LF+HF Black Bezel SATA HF+Win7	KU.0160D.052	
	ODD PLDS Super-Multi DRIVE HH DL 16X DH-16ABSH LF Black Bezel (HF+Win7) SATA	KU.0160F.011	
	ODD TOSHIBA Super-Multi DRIVE HH DL 16X TS-H653G LF Black Bezel SATA (HF+Win7)	KU.01601.007	
	ODD PLDS BD ROM HH DL 4X DH-4O3S LF Standard Bezel SATA	KV.0040F.002	
	ODD HLDS BD COMBO HH 6X CH20N Black Bezel SATA HF + Win7	KO.0060D.005	
	ODD PLDS BD COMBO HH 6X DH-6E2S Black Bezel SATA w/ Win 7	KO.0060F.002	
	ODD HLDS BD RW HH 6X BH30N Black Bezel SATA HF +Win7	KU.0060D.004	
	ODD HLDS BD RW HH 6X BH20F Black Bezel SATA (Win7 FW)	KU.0060D.005	
	ODD PLDS BD RW HH DL 6X DH-6B2SH LF+HF Black Bezel SATA (Win7+HF)	KU.0060F.001	
VGA			
	257-0K115-02NVF GEFORCE GTX480 1536MB (384BITS) GDDR5 DVI DVI HDMI ATX BRACKET	VG.PCPGT.480	N/A
	257-0K116-00NVF GEFORCE GTX470 1280MB GDDR5 (320BITS) DVI DVI HDMI ATX BRACKET	VG.PCPGT.470	
	288-1N143-010AC NV GT340 1GB DDR5 DVI+HDMI+VGA ATX (HYNIX)	VG.PCPT3.401	
	288-1N143-110AC GEFORCE GT340 1GB GDDR5 SAMSUNG (128BITS) VGA DVI HDMI ATX BRACKET ROHS	VG.PCPT3.402	
	288-30N58-010AC NV GT330 2GB DDR2 DVI+HDMI+VGA ATX (SAMSUNG)	VG.PCPT3.301	
	288-30N58-110AC NV GT330 2GB DDR2 DVI+HDMI+VGA ATX (HYNIX)	VG.PCPT3.302	
	AMD HD5970 2GB (256BITS) GDDR5 HYNIX DVI DVI DP ATX BRACKET ROHS	VG.A5970.001	
	288-3E150-001AC HD5850 1GB GDDR 5 (128BITS) SAMSUNG DUAL DVI HDMI DP W/ ATX BKT ROHS	VG.APC58.501	
	288-1E160-000AC HD5750 1GB GDDR 5 (128BITS) SAMSUNG DVI HDMI VGA W/ATX BKT ROHS	VG.APC57.502	
Power supply			
	FSP450-60EP 500W Active PFC (A01003) 100-127V/220-240V	PY.50008.005	25

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Category	Description	Part Number	Exploded Diagram Item
	LITE-ON PS-6451-5AE 500W Active PFC 100-127/220-240V	PY.5000B.003	
	FSP750-80APG 750W Active PFC (A01004) 100-127V/220-240V	PY.75008.005	
	PSU FSP FSP750-80APG 750W Active PFC (A01002) 100-240V	PY.75008.003	
Wireless LAN			
	WN7600R, WLAN PCI-Ex1 card 802.11 b/g/n 1T x 2R, Ralink 1T x 2R, RT2790+RT2720	NI.10200.008	N/A
	WN7601R, Ralink RT3090, 802.11b/g/n 1x1 WLAN PCI-E x1 card	NI.10200.037	
Mouse			
	Lite-on USB SM-9020B with black color	MS.11200.074	N/A
	Lite-on RF2.4 SM-9063B with receiver(nano dangle) SD-9080	MS.11200.073	
Keyboard			
	Keyboard LITE-ON SK-9621B USB 104KS Black US	KB.USB0B.330	N/A
	Keyboard LITE-ON SK-9621B USB 104KS Black US	KB.USB0B.370	
	Keyboard LITE-ON SK-9660B RF2.4 104KS Black US	KB.RF40B.042	
	Keyboard LITE-ON SK-9660B RF2.4 104KS Black US	KB.RF40B.082	

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Intel RAID SOP

1.INTEL® MATRIX STORAGE TECHNOLOGY CHECK(DOS)

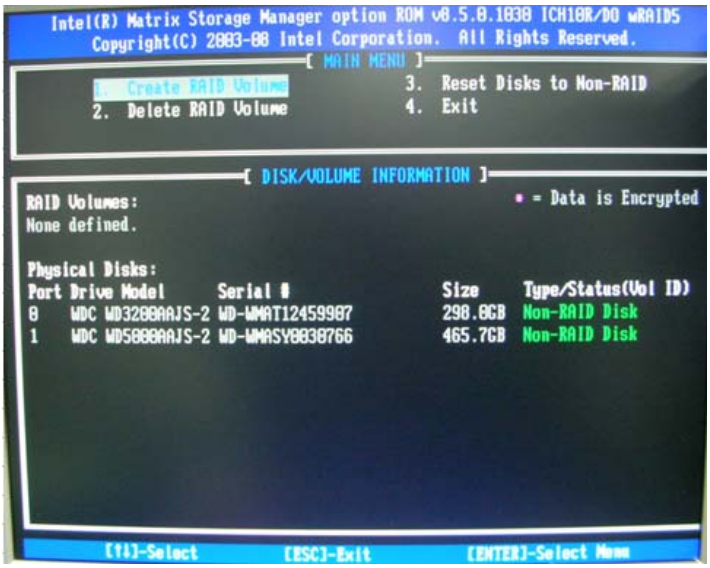
1-1: Create SATA RAID 0

Step 1:Shut down the EUT, unplug the power cable,connect two SATA HDDS to EUT , check the EUT all devices are connect/plug ok.

Step 2:Press "PWR-BTTN" to power on the EUT,Load BIOS default setting .

Step 3:At "Integrated_Peripherals" page "OnChip SATA Type" item set is as "RAID" mode,save and exit.

Step 4:During BIOS post, press <Ctrl-I> to enter into Intel RAID setup utility,as picture1.


Intel(R) Matrix Storage Manager option ROM v8.5.0.1030 ICH10R/DO wRAID5
Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[MAIN MENU]
1. Create RAID Volume
2. Delete RAID Volume
3. Reset Disks to Non-RAID
4. Exit
[DISK/VOLUME INFORMATION]
RAID Volumes:
None defined.
* = Data is Encrypted
Physical Disks:
Port Drive Model Serial # Size Type/Status(Vol ID)
0 WDC WD3200AAJS-2 WD-WMAT12459987 298.0GB Non-RAID Disk
1 WDC WD5000AAJS-2 WD-WMASY0038766 465.7GB Non-RAID Disk
[↑↓]-Select [ESC]-Exit [ENTER]-Select Menu

Picture1

Step 5: Select "1" to enter create RAID mode ,if there is no enough avalable space (there was exist a Raid , delete it).

Step 6:Create RAID 0 Mode,enter the RAID name,such as "MyRaid0",default is"Volume0".

Intel(R) Matrix Storage Manager option ROM v8.5.0.1030 ICH10R/DO wRAID5
Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[CREATE VOLUME MENU]
Name: Volume0
RAID Level: RAID0(Stripe)
Disks: Select Disks
Strip Size: 128KB
Capacity: 596.2 GB
Create Volume
[HELP]
Enter a unique volume name that has no special characters and is 16 characters or less.
[↑↓]Change [TAB]-Next [ESC]-Previous Menu [ENTER]-Select

Picture2

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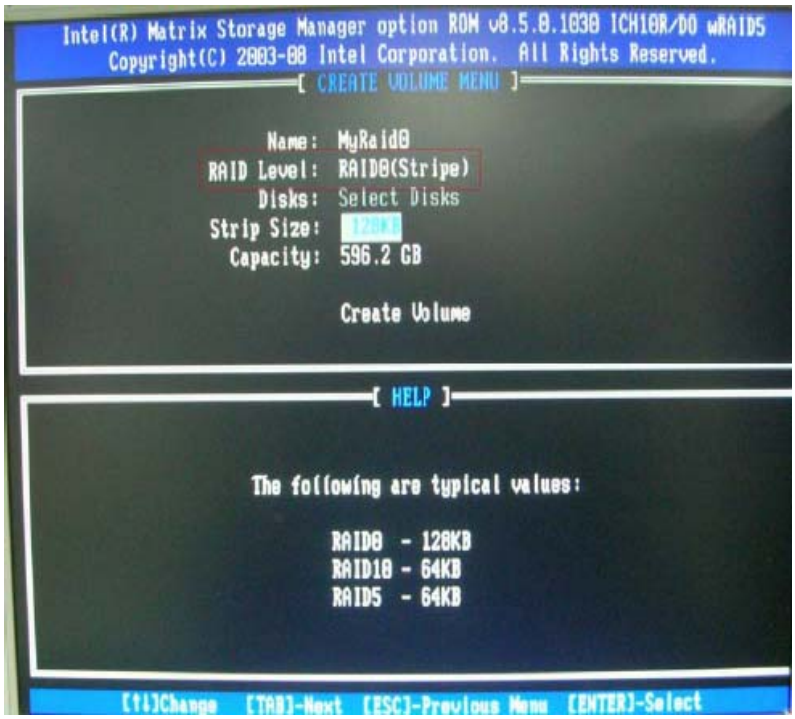
Step 7:Select "RAID0(Stripe)" at "RAID Level".



Picture3

Step 8:You can select the "Strip Size" and define RAID capacity in "Capactity".

Intel(R) Matrix Storage Manager option ROM v8.5.0.1030 ICH10R/DO wRAID5
Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[CREATE VOLUME MENU]
Name: MyRaid0
RAID Level: RAID0(Stripe)
Disks: Select Disks
Strip Size: 128KB
Capacity: 596.2 GB
Create Volume
[HELP]
Press ENTER to create the specified volume.
[↑↓]Change [TAB]-Next [ESC]-Previous Menu [ENTER]-Select

Picture4

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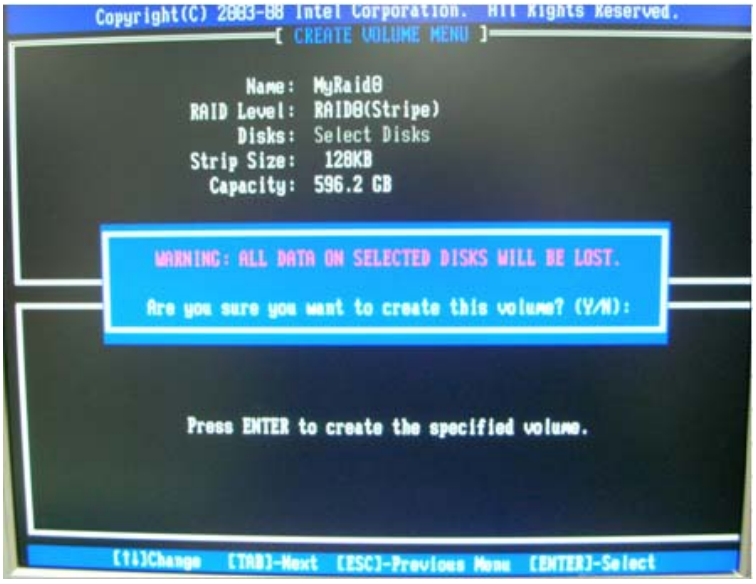
Step 9:Press "Create Volume" to create RAID0,it will pop the warning message that all data will be lost,"press "Y" to confirm it.


Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[CREATE VOLUME MENU]
Name: MyRaid0
RAID Level: RAID0(Stripe)
Disks: Select Disks
Strip Size: 128KB
Capacity: 596.2 GB
WARNING: ALL DATA ON SELECTED DISKS WILL BE LOST.
Are you sure you want to create this volume? (Y/N):
Press ENTER to create the specified volume.
[↑↓]Change [TAB]-Next [ESC]-Previous Menu [ENTER]-Select

Picture5

Step 10:It will back to create RAID interface,then press "ESC" or select 4 to exit and install OS.

1-2: Create SATA RAID 1

Step 1:Shut down the EUT, unplug the power cable,connect two SATA HDDS to EUT , check the EUT all devices are connect/plug ok.

Step 2:Press "PWR-BTTN" to power on the EUT,Load BIOS default setting .

Step 4:During BIOS post, press <Ctrl-I> to enter into Intel RAID setup utility.

Step 5: Select "1" to enter create RAID mode ,if there is no enough avalable space (there was exist a Raid , delete it).

Step 6:Create RAID 1 Mode,enter the RAID name,such as "MyRaid1",default is"Volume0".

Step 7:Select "RAID1(Mirror)" at "RAID Level".

Intel(R) Matrix Storage Manager option ROM v8.5.0.1030 ICH10R/DO wRAID5
Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[CREATE VOLUME MENU]
Name: Volume0
RAID Level: RAID1(Mirror)
Disks: Select Disks
Strip Size: N/A
Capacity: 149.0 GB
Create Volume
[HELP]
Choose the RAID level:
RAID 0: Stripes data (performance).
RAID 1: Mirrors data (redundancy).
RAID 10: Mirrors data and stripes the mirror.
RAID 5: Stripes data and parity.
[↑↓]Change [TAB]-Next [ESC]-Previous Menu [ENTER]-Select

Picture6

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Step 8:You can select the "Strip Size" and define RAID capacity in "Capactity".

Step 9:Press "Create Volume" to create RAID1,it will pop the warning message that all data will be lost,"press "Y" to confirm it.

Step 10:It will back to create RAID interface,then press "ESC" or select 4 to exit and install OS.

1-3: Create SATA RAID 5

Step 1:Shut down the EUT, unplug the power cable,connect three SATA HDDS to EUT , check the EUT all devices are connect/plug ok.

Step 2:Press "PWR-BTTN" to power on the EUT,Load BIOS default setting .

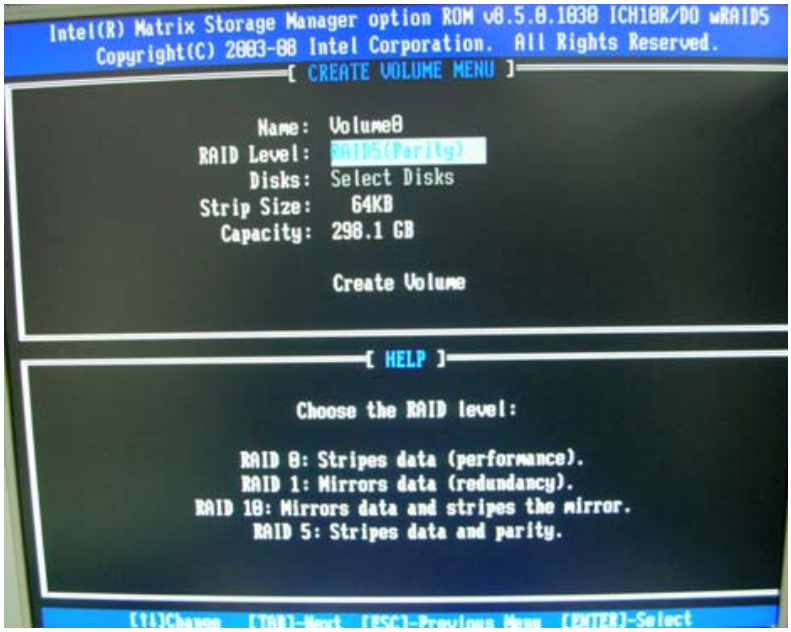
Step 3:At "Integrated_Peripherals" page "OnChip SATA Type" item set is as "RAID" mode,save and exit.

Step 4:During BIOS post, press <Ctrl-I> to enter into Intel RAID setup utility.

Step 5: Select "1" to enter create RAID mode ,if there is no enough avalable space (there was exist a Raid , delete it).

Step 6:Create RAID 5 Mode,enter the RAID name,such as "MyRaid5",default is"Volume0".

Step 7:Select "RAID5(Parity)" at "RAID Level".


Intel(R) Matrix Storage Manager option ROM v8.5.0.1030 ICH10R/DO wRAID5
Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[CREATE VOLUME MENU]
Name: Volume0
RAID Level: RAID5(Parity)
Disks: Select Disks
Strip Size: 64KB
Capacity: 298.1 GB
Create Volume
[HELP]
Choose the RAID level:
RAID 0: Stripes data (performance).
RAID 1: Mirrors data (redundancy).
RAID 10: Mirrors data and stripes the mirror.
RAID 5: Stripes data and parity.

Picture7

Step 8:You can select the "Strip Size" and define RAID capacity in "Capactity".

Step 9:Press "Create Volume" to create RAID5,it will pop the warning message that all data will be lost,"press "Y" to confirm it.

Step 10:It will back to create RAID interface,then press "ESC" or select 4 to exit and install OS.

1-4: Create SATA RAID 0+1

Step 1:Shut down the EUT, unplug the power cable,connect four SATA HDDS to EUT , check the EUT all devices are connect/plug ok.

Step 2:Press "PWR-BTTN" to power on the EUT,Load BIOS default setting .

Step 3:At "Integrated_Peripherals" page "OnChip SATA Type" item set is as "RAID" mode,save and exit.

Step 4:During BIOS post, press <Ctrl-I> to enter into Intel RAID setup utility.

Step 5: Select "1" to enter create RAID mode ,if there is no enough avalable space (there was exist a Raid , delete it).

Step 6:Create RAID 0+1 Mode,firstly create RAID 0 Mode,enter the RAID name,such as "MyRaid0+1",default is"Volume0".

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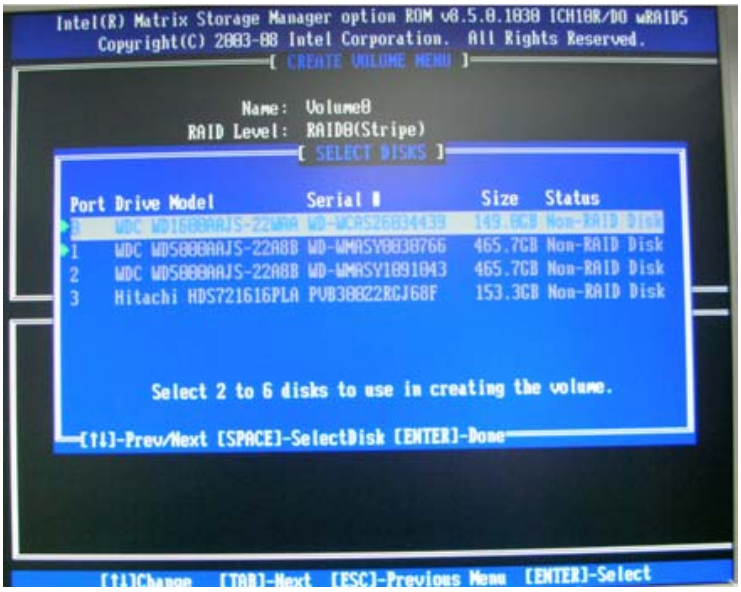
Step 7:Select "RAID0(Stripe)" at "RAID Level".

Step 8:Select two HDDs in "Disk" by space key.


Intel(R) Matrix Storage Manager option ROM v8.5.0.1030 ICH10R/DO wRAID5
Copyright(C) 2003-08 Intel Corporation. All Rights Reserved.
[CREATE VOLUME MENU]
Name: Volume0
RAID Level: RAID0(Stripe)
[SELECT DISKS]
Port Drive Model Serial # Size Status
0 WDC WD1600AAJS-22WAA WD-WCAS26834439 149.0GB Non-RAID Disk
1 WDC WD5000AAJS-22A8B WD-WMASY0830766 465.7GB Non-RAID Disk
2 WDC WD5000AAJS-22A8B WD-WMASY1891043 465.7GB Non-RAID Disk
3 Hitachi HDS721616PLA PVB30022RCJ68F 153.3GB Non-RAID Disk
Select 2 to 6 disks to use in creating the volume.
[↑↓]-Prev/Next [SPACE]-SelectDisk [ENTER]-Done
[↑↓]Change [TAB]-Next [ESC]-Previous Menu [ENTER]-Select

Picture8

Step 9:Press "Enter" to finish HDD selection and it will back to RAID creation interface.

Step 10:Repeat RAID1 creation step and exit,then install OS.

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Intel RAID SOP (Windows for WIN7)

2.Intel(R) Matrix Storage Console

2-1:Create a“RAID Ready” System into" RAID 0" with two Hard Drives by‘Create RAID Volume from Existing HDD Drive ’.

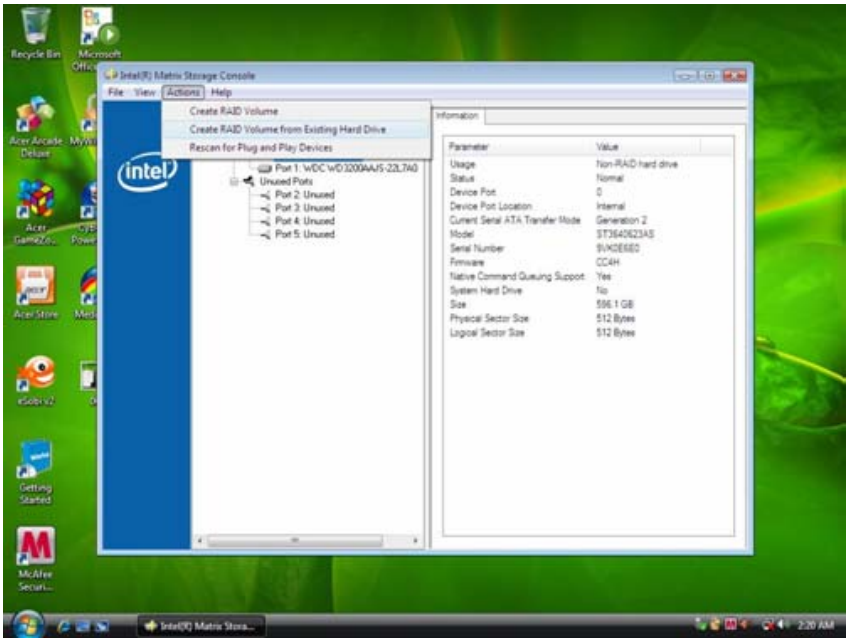
Step 1:Install Win7 OS with one SATA HDD.

Step 2:Shut down the system,then add one Serial ATA hard drive in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Picture1

Step 4:Click on the by‘Create RAID Volume from Existing HDD Drive ’ to create a RAID volume.



Picture2

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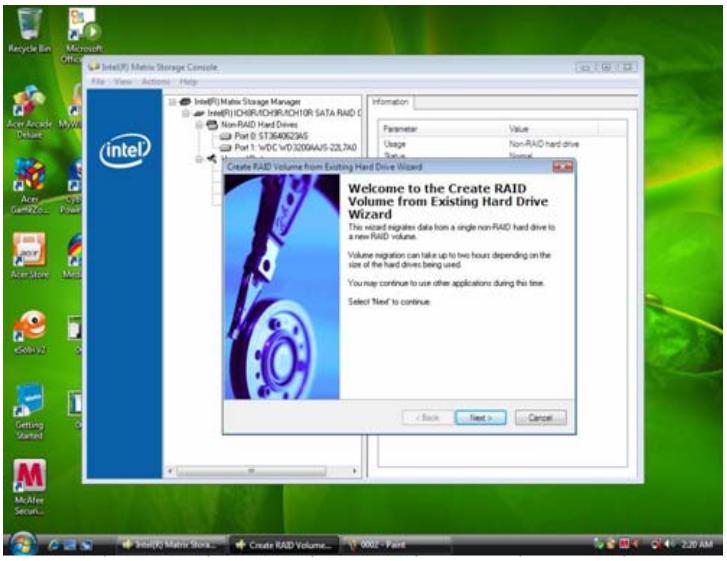
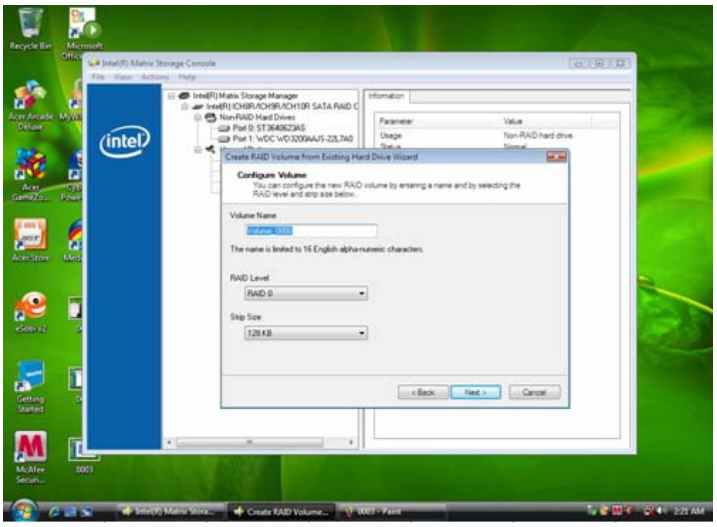
Step 5:Click "Next" at create a RAID volume window.



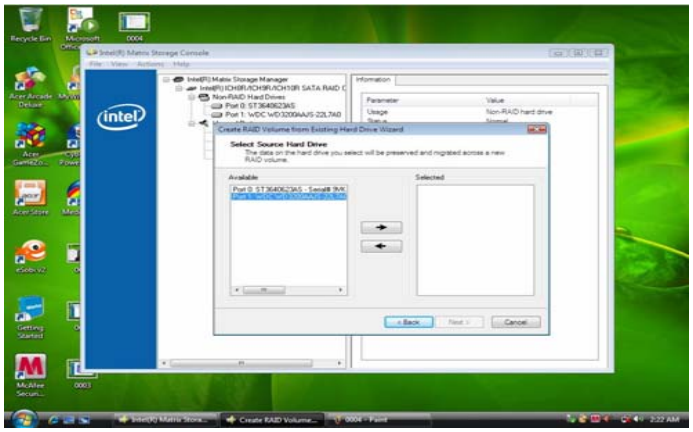
Picture3

Step 6:Key the name in "Volume Name" and select "RAID 0" in RAID Level.



Picture4

Step 7:Select minimum HDD as "Source Hard Drive".



Picture5

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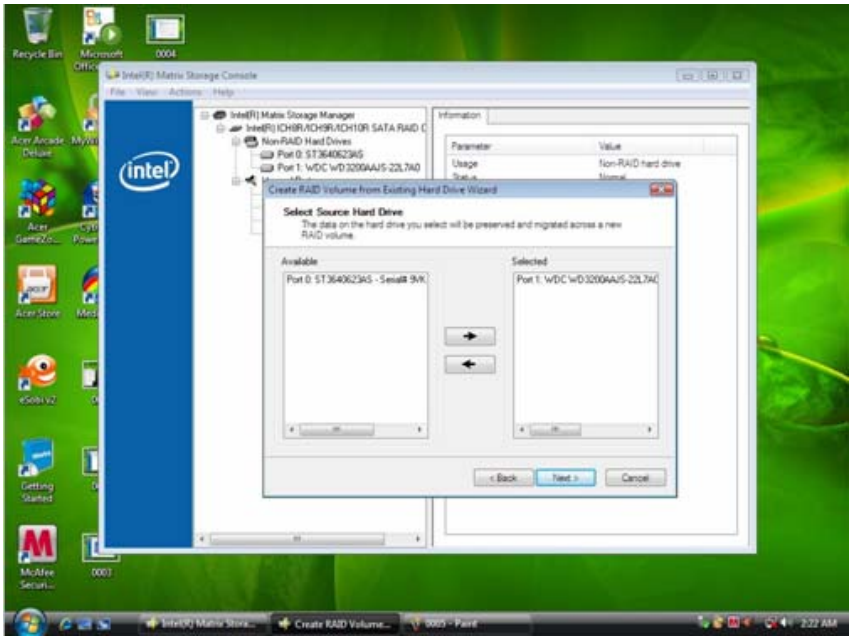
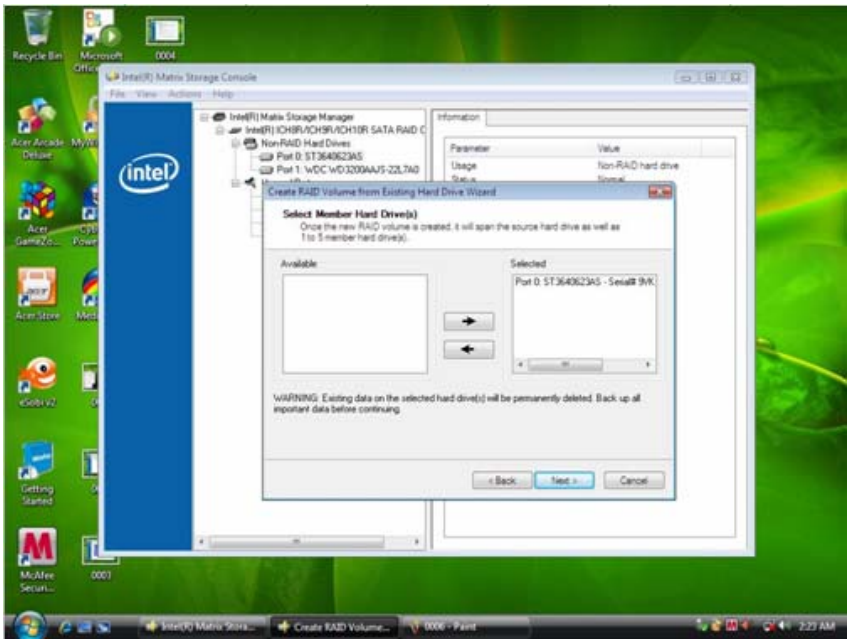


Picture6

Step 8:Select Menber Hard Drive(s).


Create RAID Volume from Existing Hard Drive Wizard
Select Member Hard Drive(s)
Available
Selected
WARNING: Existing data on the selected hard drive(s) will be permanently deleted. Back up all important data before continuing.
< Back
Next >
Cancel

Picture7

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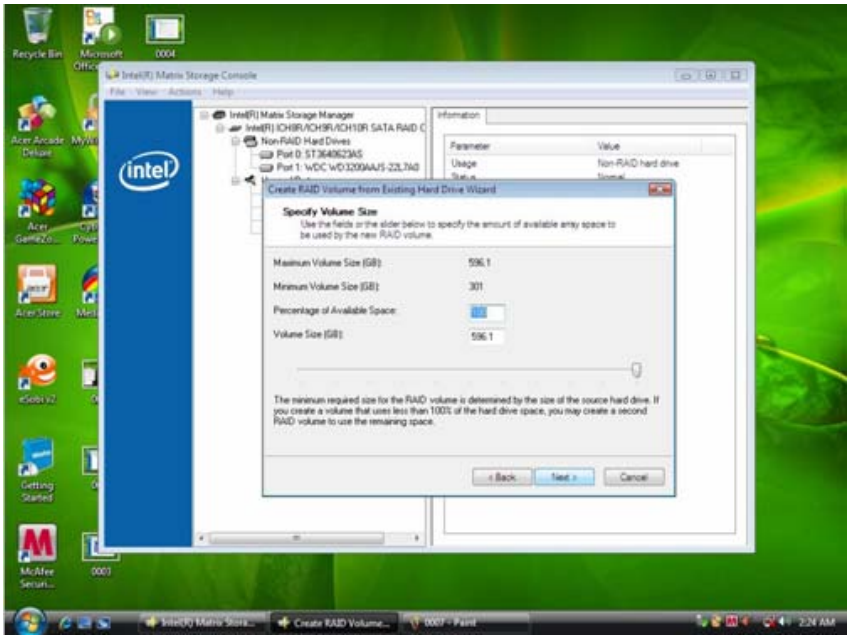
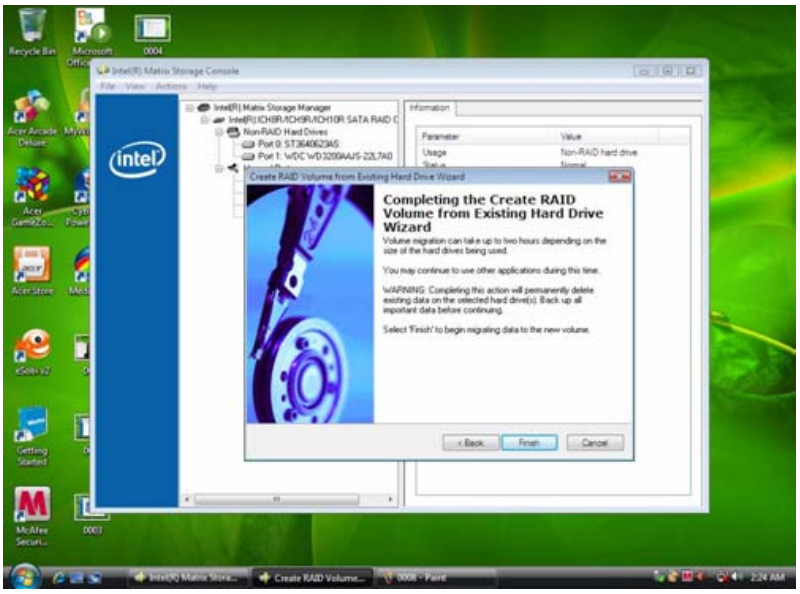
Step 9:Specify Volume Size then press "next".



Picture8

Step 10:Press "next" to finish setup and start create RAID0.


Create RAID Volume from Existing Hard Drive Wizard
Completing the Create RAID Volume from Existing Hard Drive Wizard
< Back
Finish
Cancel

Picture9

Step 11:It may takes half and hours to create RAID0.After create completely,it will ask to reboot to finish create RAID0.

2-2:Create a“RAID Ready” System into" RAID 1" with two Hard Drives by‘Create RAID Volume from Existing HDD Drive ’.

Step 1:Install WIN7 OS with one SATA HDD.

Step 2:Shut down the system,then add another Serial ATA hard drive in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume from Existing HDD Drive ’ to create a RAID volume.

Step 5:Click "Next" at create a RAID volume window.

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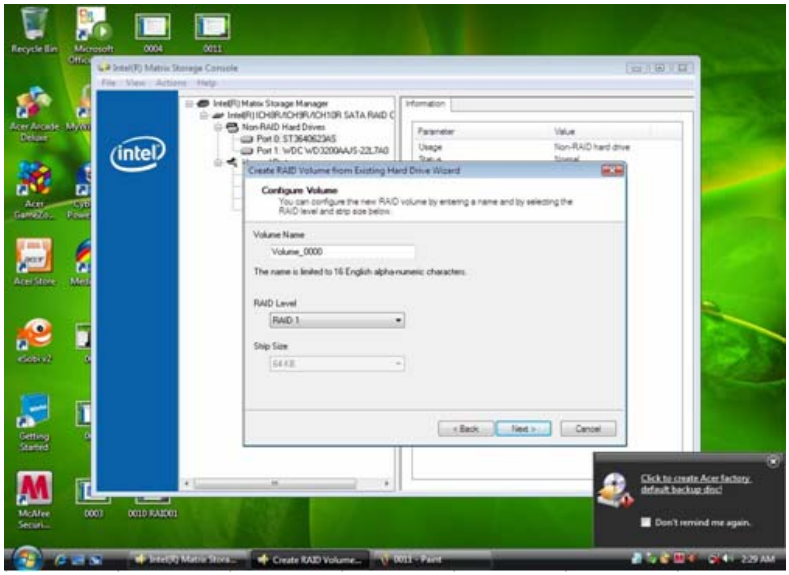
Step 6:Key the name in "Volume Name" and select "RAID 1" in RAID Level.



Picture10

Step 7:Select minimum HDD as "Source Hard Drive".

Step 8:Select Menber Hard Drive(s).

Step 9:Specify Volume Size then press "next".

Step 10:Press "next" to finish setup and start create RAID1.

Step 11:It may takes half and hours to create RAID1.After create completely,it will ask to reboot to finish create RAID1.

2-3:Create a“RAID Ready” System into" RAID 5" with three Hard Drives by‘Create RAID Volume from Existing HDD Drive ’.

Step 1:Install WIN7 OS with one SATA HDD.

Step 2:Shut down the system,then add other two serial ATA hard drives in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume from Existing HDD Drive ’ to create a RAID volume.

Step 5:Click "Next" at create a RAID volume window.

Step 6:Key the name in "Volume Name" and select "RAID 1" in RAID Level.

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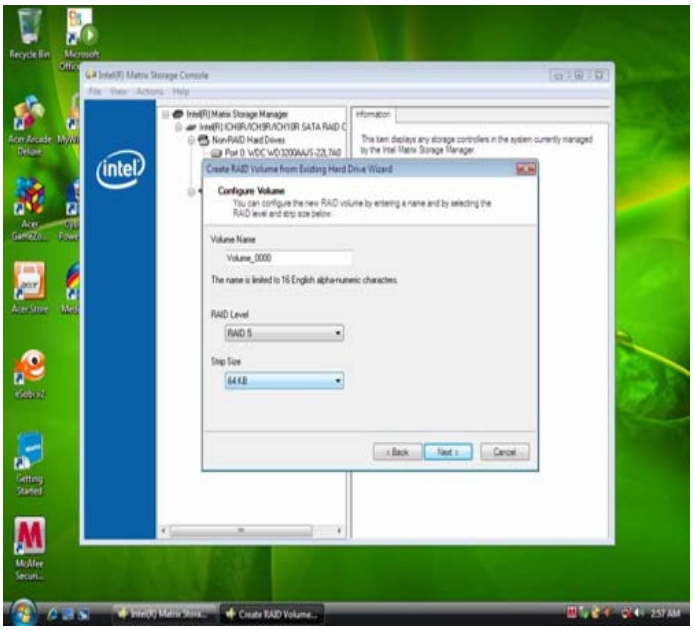
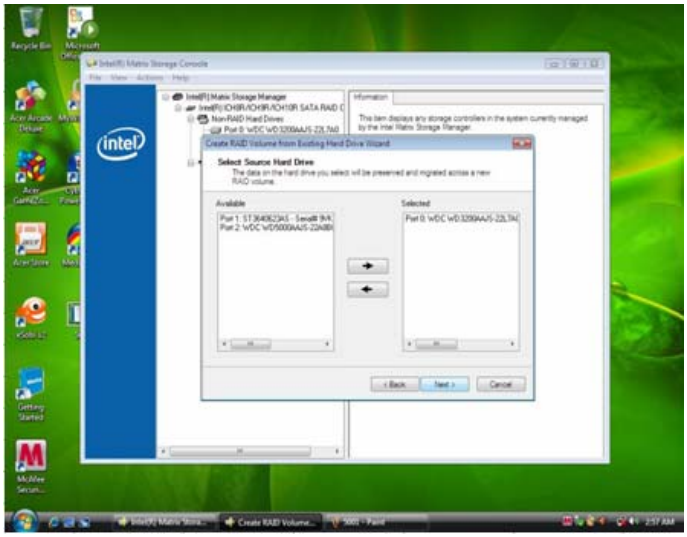
Step 6:Key the name in "Volume Name" and select "RAID 5" in RAID Level.



Picture11

Step 7:Select minimum HDD as "Source Hard Drive".



Picture12

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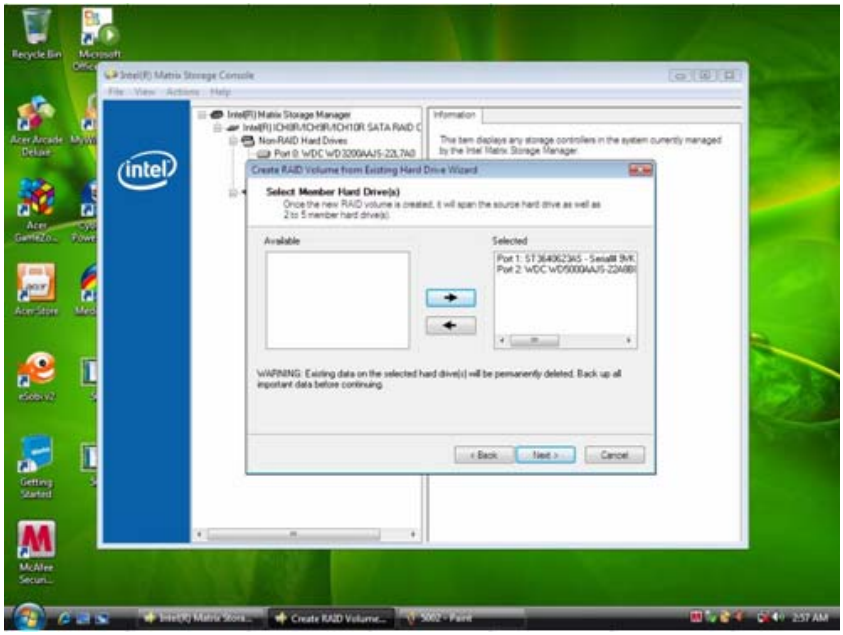
Step 8:At least select two HDD as Menber Hard Drive(s).


Create RAID Volume from Existing Hard Drive Wizard
Select Member Hard Drive(s)
Available
Selected
WARNING: Existing data on the selected hard drive(s) will be permanently deleted. Back up all important data before continuing.
< Back
Next >
Cancel

Picture13

Step 9:Specify Volume Size then press "next".

Step 10:Press "next" to finish setup and start create RAID5.

Step 11:It may takes half and hours to create RAID5.After create completely,it will ask to reboot to finish create RAID5.

2-4:Create a“RAID Ready” System into" RAID 10" with three Hard Drives by‘Create RAID Volume from Existing HDD Drive ’.

Step 1:Install Win7 OS with one SATA HDD.

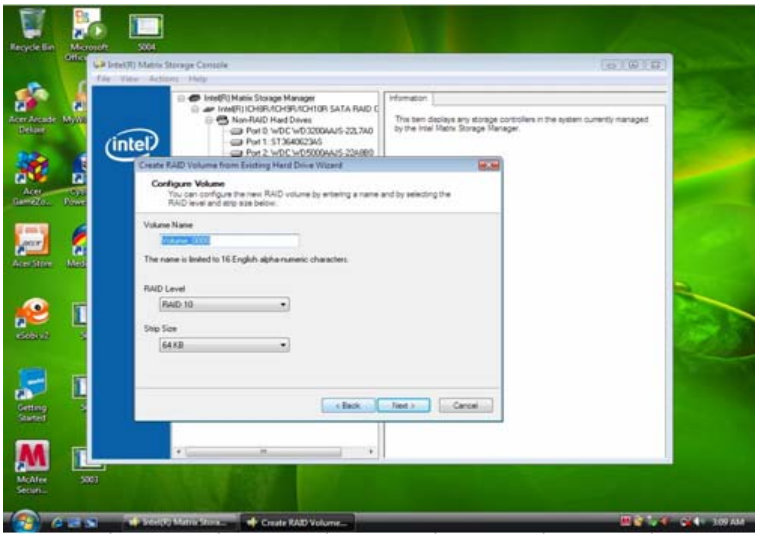
Step 2:Shut down the system,then add other two serial ATA hard drives in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume from Existing HDD Drive ’ to create a RAID volume.

Step 5:Click "Next" at create a RAID volume window.

Step 6:Key the name in "Volume Name" and select "RAID 10" in RAID Level.



Picture14

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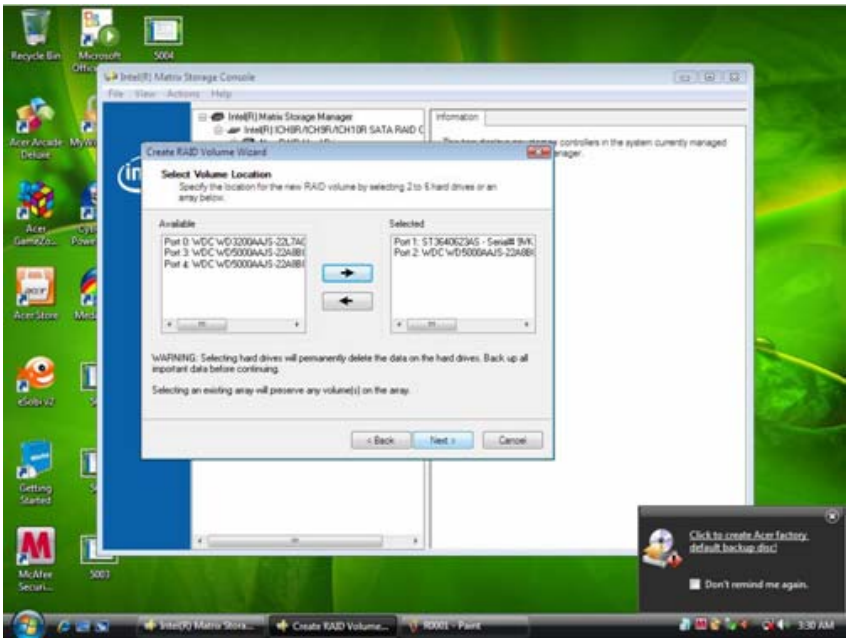
Step 7:Select two HDDs as "Source Hard Drive".



Picture15

Step 8:At least select two HDD as Menber Hard Drive(s).

Step 9:Specify Volume Size then press "next".

Step 10:Press "next" to finish setup and start create RAID 10.

Step 11:It may takes half and hours to create RAID 10.After create completely,it will ask to reboot to finish create RAID10.

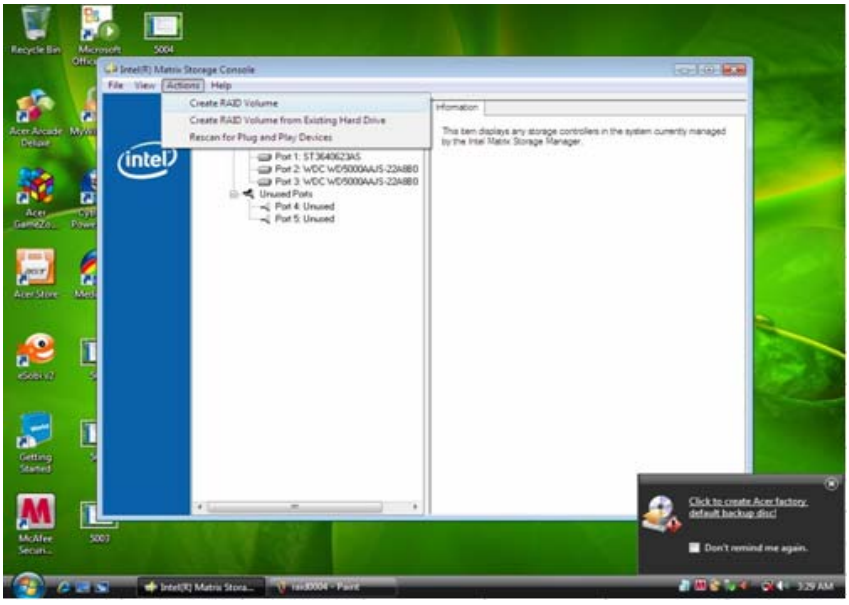
2-5:Create a“RAID Ready” System into" RAID 0" with two Hard Drives by ‘Create RAID Volume ’.

Step 1:Install WIN7 OS with one SATA HDD.

Step 2:Shut down the system,then add another two serial ATA hard drives in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume’ to create a RAID volume.



Picture16

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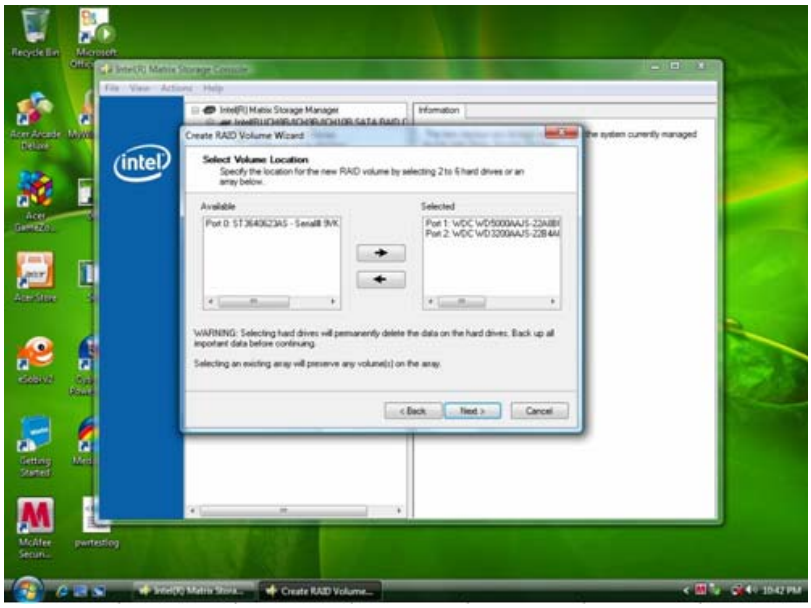
Step 5:Click "Next" at create a RAID volume window.

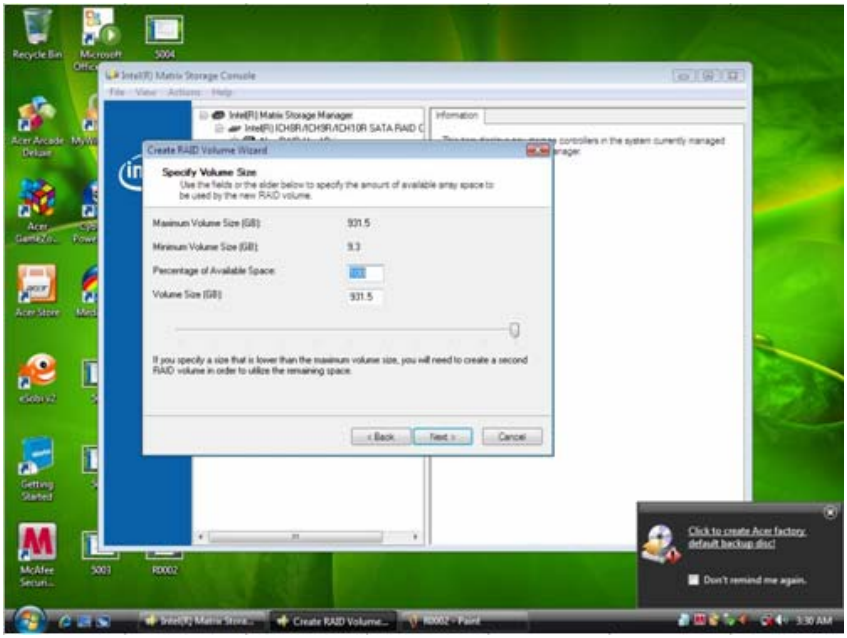
Step 6:Key the name in "Volume Name" and select "RAID 0" in RAID Level.

Step 7:At least select two HDDs as "Volume Location".


Create RAID Volume Wizard
Select Volume Location
Specify the location for the new RAID volume by selecting 2 to 6 hard drives or an array below.
Available
Selected
WARNING: Selecting hard drives will permanently delete the data on the hard drives. Back up all important data before continuing.
Selecting an existing array will preserve any volume(s) on the array.
< Back
Next >
Cancel

Picture17

Step 8:Specify Volume Size then press "next".


Create RAID Volume Wizard
Specify Volume Size
Use the fields or the slider below to specify the amount of available array space to be used by the new RAID volume.
Maximum Volume Size (GB):
931.5
Minimum Volume Size (GB):
9.3
Percentage of Available Space:
Volume Size (GB):
931.5
If you specify a size that is lower than the maximum volume size, you will need to create a second RAID volume in order to utilize the remaining space.
< Back
Next >
Cancel
Click to create Acer factory default backup disc!
Don't remind me again.

Picture18

Step 9:Press "next" to finish setup and start create RAID 0.

Step 10:It may takes half and hours to create RAID 0.After create completely,it will ask to reboot to finish create RAID 0.

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2-6:Create a“RAID Ready” System into" RAID 1" with two Hard Drives by ‘Create RAID Volume ’.

Step 1:Install WIN7 OS with one SATA HDD.

Step 2:Shut down the system,then add another two serial ATA hard drives in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume’ to create a RAID volume.

Step 5:Click "Next" at create a RAID volume window.

Step 6:Key the name in "Volume Name" and select "RAID 1" in RAID Level.

Step 7:At least select two HDDs as "Volume Location".

Step 8:Specify Volume Size then press "next".

Step 9:Press "next" to finish setup and start create RAID 1.

Step 10:It may takes half and hours to create RAID 1.After create completely,it will ask to reboot to finish create RAID 1.

2-7:Create a“RAID Ready” System into" RAID 5" with two Hard Drives by ‘Create RAID Volume ’.

Step 1:Install WIN7 OS with one SATA HDD.

Step 2:Shut down the system,then add another three serial ATA hard drives in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume’ to create a RAID volume.

Step 5:Click "Next" at create a RAID volume window.

Step 6:Key the name in "Volume Name" and select "RAID 5" in RAID Level.

Step 7:At least select three HDDs as "Volume Location".

Step 8:Specify Volume Size then press "next".

Step 9:Press "next" to finish setup and start create RAID 5.

Step 10:It may takes half and hours to create RAID 5.After create completely,it will ask to reboot to finish create RAID 5.

2-8:Create a“RAID Ready” System into" RAID 10" with two Hard Drives by ‘Create RAID Volume ’.

Step 1:Install WIN7 OS with one SATA HDD.

Step 2:Shut down the system,then add another four serial ATA hard drives in the system.

Step 3:Boot to OS desktop, open the Intel® Matrix Storage Console.

Step 4:Click on the by‘Create RAID Volume’ to create a RAID volume.

Step 5:Click "Next" at create a RAID volume window.

Step 6:Key the name in "Volume Name" and select "RAID 10" in RAID Level.

Step 7:At least select three HDDs as "Volume Location".

Step 8:Specify Volume Size then press "next".

Step 9:Press "next" to finish setup and start create RAID 10.

Step 10:It may takes half and hours to create RAID 10.After create completely,it will ask to reboot to finish create RAID 10.

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